University of California
College of Agriculture
Agricultural Experiment Station
Berkeley, California

SITUATION AND OUTLOOK FOR SELECTED FRUITS AND NUTS WITH SPECIAL REFERENCE TO THE WAR

by

H. R. Wellman and Sidney Hoos

February, 1941

Contribution from the
Giannini Foundation of Agricultural Economics
Mimeographed Report No. 75

SITUATION AND OUTLOOK FOR SELECTED FRUITS AND NUTS WITH SPECIAL REFERENCE TO THE WAR

by

H. R. Wellman and Sidney Hoos

TABLE OF CONTENTS

February, 1941

SITUATION AND OUTLOOK FOR SELECTED FRUITS AND NUTS

WITH SPECIAL REFERENCE TO THE WAR

by

E. R. Wellman and Sidney Hoos

TABLE OF

CONTENTS

February, 1941

SITUATION AND OUTLOOK FOR SELECTED FRUITS AND NUTS

WITH SPECIAL REFERENCE TO THE WAR

by

H. R. Wellman [1] and Sidney Hoos [2]

The impact of the present European war on California's fruit industries was discussed in general terms in a recent publication.[3] In that report attention was directed mainly toward those fruits which normally are exported in relatively large quantities. In this report we shall be concerned with the situation and outlook for selected fruits and nuts which are either exported only in small volume or are on an import basis. Citrus fruits and unshelled walnuts are in the first-mentioned category while almonds, avocados, dates, olive oil, and shelled walnuts are in the second.

During the five years preceding the outbreak of the war less than 10 per cent of the United States commercial output of citrus fruits was exported, and less than one half of the total exports was shipped to European countries. Except for canned grapefruit exports which have gone mainly to the United Kingdom, the largest single foreign outlet for United States citrus fruits has been Canada. During the five years 1934-35 to 1938-39, Canada took 54 per cent of our total exports of fresh citrus fruits while all European countries combined took only 40 per cent.

Although the European markets have been virtually closed to our citrus fruits since September 1939, Canada has continued to take relatively large quantities. Canadian imports of fresh citrus fruits from this country in 1939-40 were larger than in the average of the previous years, both in absolute amounts and in percentages of our total shipments.

The loss in exports of citrus fruits to Europe seems likely to be more than offset within a relatively short time by an increase in domestic demand as a result of the rise in consumers' incomes in this country. Under the impetus of our defense program, national income is rising and will probably continue upward for some time.

Even with a substantial increase in domestic demand for citrus fruits, prices to growers may not rise appreciably. The trends of production of all three citrus fruits -- oranges, lemons, and grapefruit -- are sharply upward, and

---

1/ Professor of Agricultural Economics, Agricultural Economist in the Experiment Station and Agricultural Economist on the Giannini Foundation.

2/ Instructor in Agricultural Economics, Junior Agricultural Economist in the Experiment Station and Junior Agricultural Economist on the Giannini Foundation.

3/ Shear, S. W., Sidney Hoos, and H. R. Wellman. Effects of the war on California fruit industries. University of California Giannini Foundation Mimeo. Report No. 74. January 1941.

SITUATION AND OUTLOOK FOR SELECTED FRUITS AND NUTS

WITH SPECIAL REFERENCE TO THE WAR

by

H. R. Wellman [1] and Sidney Hoos [2]

The impact of the present European war on California's fruit industries was discussed in general terms in a recent publication.[3] In that report attention was directed mainly toward those fruits which normally are exported in relatively large quantities. In this report we shall be concerned with the situation and outlook for selected fruits and nuts which are either exported only in small volume or are on an import basis. Citrus fruits and unshelled walnuts are in the first-mentioned category while almonds, avocados, dates, olive oil, and shelled walnuts are in the second.

During the five years preceding the outbreak of the war less than 10 per cent of the United States commercial output of citrus fruits was exported, and less than one half of the total exports was shipped to European countries. Except for canned grapefruit exports which have gone mainly to the United Kingdom, the largest single foreign outlet for United States citrus fruits has been Canada. During the five years 1934-35 to 1938-39, Canada took 54 per cent of our total exports of fresh citrus fruits while all European countries combined took only 40 per cent.

Although the European markets have been virtually closed to our citrus fruits since September 1939, Canada has continued to take relatively large quantities. Canadian imports of fresh citrus fruits from this country in 1939-40 were larger than in the average of the previous years, both in absolute amounts and in percentages of our total shipments.

The loss in exports of citrus fruits to Europe seems likely to be more than offset within a relatively short time by an increase in domestic demand as a result of the rise in consumers' incomes in this country. Under the impetus of our defense program, national income is rising and will probably continue upward for some time.

Even with a substantial increase in domestic demand for citrus fruits, prices to growers may not rise appreciably. The trends of production of all three citrus fruits -- oranges, lemons, and grapefruit -- are sharply upward, and

---

[1] Professor of Agricultural Economics, Agricultural Economist in the Experiment Station and Agricultural Economist on the Giannini Foundation.

[2] Instructor in Agricultural Economics, Junior Agricultural Economist in the Experiment Station and Junior Agricultural Economist on the Giannini Foundation.

[3] Shear, S. W., Sidney Hoos, and H. R. Wellman. Effects of the war on California fruit industries. University of California Giannini Foundation Mimeo. Report No. 74. January 1941.

---

the pressure of larger supplies may be sufficient to counteract the influence on prices of increased domestic demand.

During the five years 1934-35 to 1938-39, United States almond production amounted to about 58 per cent of total disappearance. For the preceding five years, domestic production made up 45 per cent of total supplies. Although domestic almond production has tended to increase in relation to total supplies, imports have remained an important source. Italy and Spain were the two chief countries of origin for our almond imports. The British blockade has cut off importations from Italy, and stringent shipping conditions have hindered Spanish exports.

The absence of large imports of almonds into the United States favors domestic producers who are almost wholly located in California. Decreased imports associated with increased consumers' money incomes have already been reflected in substantial advances in almond prices. Walnuts, imported Brazil nuts, pecans, filberts, and cashews to some extent compete with almonds in consumption, and adequate supplies of those nuts are likely to retard a marked advance in almond prices. Present indications are that the domestic almond industry will be in a favorable position for the duration of the war.

The California olive industry is in a better situation than any time during the past decade. The United States has been a large importer of olive oil. During the five-year period 1934-38, about 95 per cent of total utilization of edible olive oil originated in foreign countries, chiefly Italy, Spain, and other Mediterranean countries. Hence the British blockade and stringent ocean shipping conditions have put domestically produced olive oil at a premium. In addition, increases in consumers' money incomes may increase the demand for canned ripe olives, which have utilized about one third of the domestic crop during the past five years. Recent marked advances in olive oil prices have reflected the favorable position of the industry. However, the abnormal nature of the current situation is insufficient basis for planting additional olive acreage. After the European war is over, it is very likely that the United States will again import large quantities of edible and inedible olive oil from European countries.

United States avocado supplies are produced in California, Florida, and Cuba. Since no imports are received from countries outside the northern half of the western hemisphere, the European war has had no direct effect on the domestic avocado industry. Practically all of the Cuban avocado exports are shipped to this country, and pressure of these supplies is no greater than before the war. The effect of the war on the domestic avocado industry is associated with our defense program and resulting expansion in money incomes of consumers. Hence there is some basis for expecting increased demand for avocados. Supplies available during the current crop year are abundant owing mainly to the large California crop.

During the five years preceding the present European war, approximately 88 per cent of all the dates consumed in the United States were imported. About 95 per cent of domestic output is produced in California. Imports originate in countries surrounding the Persian Gulf. Regardless of difficulties in ocean shipping, date imports are approximating pre-war levels. In fact, there may be additional pressure to export to this country since European markets have been interfered with by the war. At present the effect of the war on the domestic date industry is limited to increased money incomes which may be reflected in some expansion in date consumption.

the pressure of larger supplies may be sufficient to counteract the influence on prices of increased domestic demand.

During the five years 1934-35 to 1938-39, United States almond production amounted to about 88 per cent of total disappearance. For the preceding five years, domestic production made up 65 per cent of total supplies. Although domestic almond production has tended to increase in relation to total supplies, imports have remained an important source. Italy and Spain were the two chief countries of origin for our almond imports. The British blockade has cut off importations from Italy, and stringent shipping conditions have hindered Spanish exports.

The absence of large imports of almonds into the United States favors domestic producers who are almost wholly located in California. Decreased imports associated with increased consumers' money incomes have already been reflected in substantial advances in almond prices. Walnuts, imported Brazil nuts, pecans, filberts, and cashews to some extent compete with almonds in consumption, and adequate supplies of these nuts are likely to retard a marked advance in almond prices. Present indications are that the domestic almond industry will be in a favorable position for the duration of the war.

The California olive industry is in a better situation than any time during the past decade. The United States has been a large importer of olive oil. During the five-year period 1934-38, about 98 per cent of total utilization of edible olive oil originated in foreign countries, chiefly Italy, Spain, and other Mediterranean countries. Hence the British blockade and stringent ocean shipping conditions have put domestically produced olive oil at a premium. In addition, increases in consumers' money incomes may increase the demand for canned ripe olives, which have utilized about one third of the domestic crop during the past five years. Recent marked advances in olive oil prices have reflected the favorable position of the industry. However, the abnormal nature of the current situation is insufficient basis for planning additional olive acreage. After the European war is over, it is very likely that the United States will again import large quantities of edible and inedible olive oil from European countries.

United States avocado supplies are produced in California, Florida, and Cuba. Since no imports are received from countries outside the northern half of the western hemisphere, the European war has had no direct effect on the domestic avocado industry. Practically all of the Cuban avocado exports are shipped to this country, and pressure of these supplies is no greater than before the war. The effect of the war on the domestic avocado industry is associated with our defense program and resulting expansion in money incomes of consumers. Hence there is some basis for expecting increased demand for avocados. Supplies available during the current crop year are abundant owing mainly to the large California crop.

During the five years preceding the present European war, approximately 88 per cent of all the dates consumed in the United States were imported. About 95 per cent of domestic output is produced in California. Imports originate in countries surrounding the Persian Gulf. Regardless of difficulties in ocean shipping, date imports are approximating pre-war levels. In fact, there may be additional pressure to export to this country since European markets have been interfered with by the war. At present the effect of the war on the domestic date industry is limited to increased money incomes which may be reflected in some expansion in date consumption.

Prior to 1935 the United States imported considerable quantities of unshelled walnuts as well as shelled walnuts, but in recent years this country has been a net exporter of unshelled walnuts. Around 70 per cent of these exports went to Europe and Canada, which markets are now virtually closed. Imports of shelled walnuts originate chiefly in China and are at approximately the pre-war level. Total walnut supplies available for domestic consumption have been increased as a result of the war and will tend to counteract the tendency toward price advances due to the expansion of consumers' money incomes.

ORANGES

Total demand for United States oranges during the next two or three years is likely to be increased rather than decreased as a result of the present European war. While export outlets will be curtailed, this loss will probably be more than made up by expansion of domestic markets. However, prices and returns to growers are not likely to advance materially because of increased production in this country.

The average annual increase in production of oranges in the United States during the past decade was around 3,200,000 boxes. In 1929-30 the trend of production was at 44,000,000 boxes; in 1939-40 it had risen to 76,000,000 boxes, an increase of 73 per cent. During the same period population of the United States increased only 8 per cent.

Each of the important orange producing states contributed to this expansion in production. Florida production increased at the rate of 1,600,000 boxes a year and California production at the rate of 1,400,000 boxes a year. Production in Texas, although still small, has tripled within the past five years. From 1934-35 to 1938-39 California produced 60 per cent of the nation's orange crop, Florida produced 36 per cent, and Texas nearly 3 per cent. The small remainder was produced in the states of Arizona, Alabama, Louisiana, and Mississippi. Data on production are summarized in table 1.

In California the largest part of the increase in orange production since 1929-30 has been in Valencias which are marketed mainly during the summer months. In 1929-30 the trend of Valencia production was at 15,500,000 boxes, and in 1939-40 it was at 26,000,000 boxes, an average increase of 1,050,000 boxes a year. During the same period production of Navel and miscellaneous oranges which are marketed mainly during the winter months increased at the rate of only 350,000 boxes a year.

The age distribution of orange trees in the United States is such that further substantial increases in production are in prospect during the next five years. As of 1939, the latest year for which data are available, about 40 per cent of the bearing acreage in the four states of California, Arizona, Florida, and Texas was less than 16 years old, and hence was not in full production. The bearing acreage of oranges in Florida now exceeds that in California, and the trees are younger. In both Texas and Arizona the bearing acreage is small, but most of the trees will be increasing in bearing surface for some years to come.

Plantings of oranges in California during recent years have been relatively small. The total plantings of Valencia oranges during the five years 1935-1939 amounted to only 9,700 acres as against 28,400 acres during the previous five years. The nonbearing acreage of Valencias in 1939 constituted only 7 per cent of the total acreage. Plantings of Navel and miscellaneous varieties during the period 1935-1939 totaled only 3,100 acres, about 60 per cent less than in 1930-1934. Less than 4 per cent of the total acreage of these varieties was of nonbearing age in 1939.

During the five years 1934-35 to 1938-39 United States exports of oranges averaged 5,238,000 boxes a year and constituted 9.6 per cent of the total commercial shipments of fruit for fresh consumption. In the previous five-year period 1929-30 to 1933-34, exports averaged 3,403,000 boxes a year, 7.8 per cent

Total demand for United States citrus during the next two or three years is likely to be increased rather than decreased as a result of the previous increased use. This export outlook will be carefully made. Some increase will probably occur, though, by expansion of domestic markets. However, prices and prospects for growers are not likely to advance materially because of increased production in this country.

The average annual increase in production of oranges in the United States during the past decade was around 4,000,000 boxes. In 1929-30 the total of production was 4,000,000 boxes; in 1939-40 it had risen to 70,000,000 boxes, an increase of 3 per cent. During the same period population of the United States increased only 8 per cent.

Even of the important orange producing states contributed to this expansion in production. Florida produced a increase of the order of 1,000,000 boxes a year; California produced about 1,000,000 boxes a year; Texas, although still small, has grown within the past [illegible] years. From 1929-30 to 1939-40 California produced 6 per cent of the national crop; Florida produced 30 per cent and Texas nearly 2 per cent. The small production was produced in the states of Arizona, Louisiana, Georgia, and Mississippi. Data on production are summarized in table 1.

In California the largest part of the increase in orange production since 1929-30 has been in the Valencia varieties, and mainly within the Central Coast in 1939-40 the crop of Valencia oranges was 15,500,000 boxes, and in 1929-30 it was 2,700,000 boxes. [illegible] 1,000,000 boxes a year. Making the same comparison for Florida, Valencia oranges in Florida increased 1,000,000 boxes in the same period, while the production of other varieties increased only 1,000,000 boxes a year.

The area distribution of orange trees in the United States is such that further substantial increases in production are not required. Only 10 per cent of the bearing acreage in the Pacific Coast states is in Valencia oranges. Nearly 90 per cent of the bearing acreage in the four states of California, Arizona, Florida and Texas was for which is more old. Much more was not in full bearing in the bearing acreage of oranges in Florida after nearly half in California, and the trees are younger. In both Florida and California, the bearing acreage has been increasing in bearing acreage for some years to come. But most of the trees will be increasing in bearing acreage for some years to come.

Plantings of oranges in California during recent years have been relatively small. The total plantings of Valencia oranges during the five years 1934-1938 amounted to only 9,700 acres as against 50,000 acres during the previous five years. The corresponding acreage of Valencia in 1939 amounted to only 7 per cent of the total for 1934. Plantings of Navel were considerably more than a third as large in 1934-1938 totaling only 3,100 acres, about 10 per cent less than in 1929-1934. Navels form 4 per cent of the total acreage of trees and the rate of increase is [illegible] in 1939.

During the three years 1936-38 to 1939-40 United States exports of oranges averaged 6,000,000 boxes a year and constituted 10 per cent of the total consumption of the [illegible] from domestic consumption. In the previous five years [illegible]

of the total shipments. In each of these two five-year periods exports of oranges during the summer months May through October were larger than during the winter months November through April, both in absolute amount and in relation to total shipments (table 2).

The importance of various foreign countries as markets for United States oranges is indicated by the data in table 3. Canada has been our principal export outlet for both winter oranges and summer oranges, taking during the period 1934-35 to 1938-39 64 per cent of our November-April exports and 42 per cent of our May-October exports. During the same five years European countries, among which the United Kingdom was the most important, took 31 per cent of our winter exports and 52 per cent of our summer exports.

A striking fact shown in table 3 is the large increase in our orange exports to Europe between the two five-year periods 1929-30 to 1933-34 and 1934-35 to 1938-39. In the earlier period our exports of winter oranges to Europe were relatively insignificant, averaging only 156,000 boxes a year, whereas in the latter period they averaged 764,000 boxes a year. During the same time our exports of summer oranges to Europe increased from an average of 746,000 boxes to an average of 1,420,000 boxes. Most of the increase, particularly in the case of winter oranges, occurred in 1937-38 and 1938-39 and is explained largely by the curtailment of exports from Spain arising out of the Civil War in that country. During the first year of that war which began in July 1936, exports of Spanish oranges were maintained at about the level of the previous two years, but in both 1937-38 and 1938-39 they were greatly reduced. Great Britain, for example, which had taken over 6 million boxes of oranges from Spain in each of the three years 1934-35 to 1936-37 obtained less than 3 million boxes a year from her in 1937-38 and 1938-39.

One of the important developments with respect to the United Kingdom imports of oranges during the thirties was the shift from foreign to Empire sources. From 1929 to 1933 the United Kingdom obtained only 24 per cent of her oranges from Empire countries, as compared with 47 per cent from 1934 to 1938 (table 4). Between these two five-year periods Britain's receipts from Palestine which are mainly winter oranges increased 130 per cent, and her receipts from South Africa which are mainly summer oranges increased 60 per cent.

Among the foreign countries the greatest gain in orange shipments to the United Kingdom was made by Brazil, whose crop is marketed mainly during the summer months. From 1934 to 1938 Brazil shipped an average of 2,080,000 boxes of oranges a year to the United Kingdom as against an average of 1,149,000 boxes a year during the period 1929-1933.

Since the outbreak of the European war in September 1939 our exports of oranges to Europe have been negligible. From 1934-35 to 1938-39 they amounted on the average to 2,183,000 boxes. Thus the loss in exports to Europe, on the basis of the five-year 1934-35 to 1938-39 average exports, would be over 2 million boxes.

For many years Canada has taken the bulk of her orange supplies from the United States. During the decade of the thirties, an average of 88 per cent of Canada's total imports of oranges originated in this country. The remainder was obtained from many sources, among the more important of which were Japan, British West Indies, and Spain (table 5).

In each of the past three years, our exports of oranges to Canada have exceeded by a substantial margin those of any other year. Most of this gain was in winter oranges and is accounted for in part by Canada's curtailment in imports from other countries and in part by an increase in her total consumption. The indirect effects upon Canadian orange imports arising out of the Spanish Civil War were much more important than the direct effects. In absolute amount the reduction in Canada's imports from Spain was small as compared with the decrease in her receipts from other countries which had shifted to the European markets in order to take advantage of the gap created there by Spain's withdrawal.

During 1939-40 our exports to Canada were at about the level of the two previous years, and substantially above the 1934-35 to 1938-39 average, thus serving to offset a portion of the loss in exports to Europe calculated on the basis of the five years preceding the outbreak of the present war. In total our exports of oranges to all countries in 1939-40 were 27 per cent below the average of 1934-35 to 1938-39. In 1939-40 exports constituted 6.3 per cent of our total shipments as against an average of 9.6 per cent during the previous five years.

Whether Canada will during the course of the war continue to take as large a volume of oranges from this country as she did in 1939-40 is uncertain. In addition to a possible reduction in her total imports of oranges which might occur as the result of economy measures, other orange-producing countries may seek a larger share of the Canadian market than they previously supplied. During recent years Brazil has exported between 3 and 4 million boxes of oranges annually, most of which went to European countries, particularly to the United Kingdom. With her European markets drastically curtailed if not completely cut off, Brazil may attempt to ship increasing quantities of oranges to Canada. Other countries such as British West Indies, Union of South Africa, and Palestine which formerly marketed the bulk of their exportable surplus of oranges in the United Kingdom, may find it necessary to seek markets which can be reached over routes less vulnerable to German attack.

The demand for oranges in this country is expected to expand as the buying power of consumers increases. On the basis of an analysis covering the years 1922-23 to 1937-38, an increase of 10 points in the index of nonagricultural income, with prices of oranges and factors subsumed under time held constant, was on the average accompanied by an increase in the consumption of oranges of between 2 and 3 million boxes. 4/

4/ The multiple regression equation is:

$$x_1 = 354.4821 - \underset{(6.7331)}{62.0880}\, x_2 + \underset{(0.5292)}{2.5163}\, x_3 + \underset{(0.5604)}{5.0555}\, x_4 - \underset{(0.0627)}{0.1613}\, x_4^2$$

where

x_1 = apparent consumption of oranges in the United States in units of 100,000 boxes.

x_2 = average annual f.o.b. price of California oranges in dollars per box.

x_3 = index of nonagricultural income payments in the United States in percentage points, average 1925-29 = 100.

x_4 = time in years, origin midway between 1929-30 and 1930-31.

The figures in parentheses are standard errors.

Data on the purchases of oranges by families grouped on the basis of their incomes indicate that an increase of 10 per cent in the incomes of each group would tend to result in an aggregate increase in the purchases of oranges by all groups combined of slightly more than 5 per cent. Applying this percentage to the 1934-35 to 1938-39 average consumption of 49,500,000 boxes gives a figure of around 2,500,000 boxes. Thus the results secured from the two different analyses are in substantial agreement.

An increase of 2 million boxes in domestic demand would just about offset the loss of exports to Europe calculated on the basis of the 1934-35 to 1938-39 average, while an increase of 3 million boxes in domestic demand would also make up for a considerable reduction in our exports to Canada should such occur.

The index of nonagricultural income in November 1940 stood at 101.5, an increase of 5.6 points from that of a year earlier. Further substantial increases during 1941 and 1942 seem probable. If the production of oranges in this country during the next several years should average no larger than in 1939-40, it is probable that returns to growers would be improved. But such level of production cannot be counted on with much assurance. The large acreage of young bearing trees suggests that the production of oranges instead of remaining stationary will continue to rise. This prospective increase in production rather than the loss of export markets seems to be the basic problem confronting the orange industry. Unless yields per acre are materially reduced by weather conditions or neglect of orchards, a reasonable estimate of the rise in the trend of orange production over the next several years is from 2 to 3 million boxes annually.

More oranges could be moved into consumption in this country by reducing prices, but only at a sacrifice of aggregate returns to growers which are already low. On the basis of our demand analysis a decrease of $1.00 a box in the annual average f.o.b. price, with incomes of consumers and time trend held constant, has on the average been accompanied by an increase in the apparent consumption of oranges of between 5.5 million and 7.0 million boxes. Such an increase in consumption would apparently take care of the prospective increase in production for several years. But it is doubtful if the majority of the orange growers in California could long survive on a price even 50 cents a box below the average of the past three years.

An increase in total shipments of oranges with no increase in market demand not only results in lower prices per box but in years of large crops also results in smaller aggregate returns to growers. On an f.o.b. basis the demand for oranges is clearly inelastic within the range of supplies of recent years. While a decrease in price stimulates consumption, it does not do so proportionately. Hence, aggregate gross returns to growers tend to be forced down when excessive supplies are shipped to market.

During the first World War prices of oranges failed to respond promptly to the inflationary movement which carried prices of most commodities skyward. It was not until 1917-18 that prices of oranges rose materially above their prewar level, and that rise appears to have been largely the result of very short crops in both California and Florida. United States orange production in that year was only one half as large as the average of the previous four years. The big increase in the demand for oranges measured in money prices occurred in 1918-19, after the war was over. That sudden gain in demand was not only

maintained during the decade of the twenties but as the result of many factors, including extensive advertising and trade promotion, was further increased.

Even during the first half of the 1930's the pressure of increased supplies in the domestic market was relieved to a considerable extent by an upward trend in the demand for oranges, relative to the buying power of consumers. Based upon the multiple regression cited in footnote on page 6, the increase in apparent consumption, with the f.o.b. price and the index of nonagricultural income held constant, was at the rate of 540,000 boxes a year in 1929-30, 280,000 a year in 1933-34, but only 85,000 boxes a year in 1936-37. For the past three years there has been no increase in the demand for oranges in this country over and above that associated with the increase in consumers' incomes.

TABLE 1

Oranges: United States Production by States

Period	California			Florida	Texas	Other states	Total
	Navels and miscel-laneous	Valencias	Total				
	1,000 boxes						
Averages:							
1919-20 to 1923-24	11,102	8,728	19,830	9,997	7	287	30,121
1924-25 to 1928-29	13,848	12,678	26,526	11,654	51	334	38,565
1929-30 to 1933-34	13,985	16,926	30,911	15,607	357	512	47,387
1934-35 to 1938-39	16,269	22,735	39,004	23,620	1,536	703	64,863
Annual:							
1938-39	17,970	23,450	41,420	33,300	2,815	996	78,531
1939-40	17,521	26,883	44,404	28,000	2,360	882	75,646

Sources of data:

1919-20 to 1936-37: From U. S. Dept. Agr., Agricultural Statistics, 1940, and earlier issues.

1937-38 to 1939-40: From California Cooperative Crop Reporting Service, California Citrus Fruit Report, February 1, 1941. (Mimeo.) February 10, 1941.

TABLE 2

Oranges: United States Shipments and Exports

Period	November-April			May-October		
	Shipments	Exports	Proportion exported	Shipments	Exports	Proportion exported
	1,000 boxes		Per cent	1,000 boxes		Per cent
	1	2	3	4	5	6
Averages:						
1929-30 to 1933-34	26,938	1,505	5.6	16,634	1,898	11.4
1934-35 to 1938-39	33,332	2,496	7.5	21,407	2,742	12.8
Annual:						
1938-39	40,645	4,321	10.6	24,313	2,150	8.8
1939-40	36,847	2,363	6.4	23,956	1,465	6.1

Sources of data:

Cols. 1 and 4: From U. S. Dept. Agr. Surplus Commodities Administration, Division of Fruits and Vegetables, except data for California which are based on reports of the California Cooperative Crop Reporting Service.

Cols. 2 and 5: Compiled from reports of U. S. Bureau of Foreign and Domestic Commerce.

TABLE 3

Oranges: United States Exports by Countries of Destination

Period	Europe			Canada	Other countries	Total
	United Kingdom	Other Europe	Total Europe			
	1	2	3	4	5	6
	1,000 boxes					
November-April Averages:						
1929-30 to 1933-34	125.2	31.1	156.3	1,248.7	100.7	1,505.7
1934-35 to 1938-39	386.0	377.6	763.6	1,591.9	140.9	2,496.4
Annual:						
1938-39	878.4	1,005.3	1,883.7	2,231.4	205.6	4,320.7
1939-40	27.8	58.7	86.5	2,104.0	259.4	2,363.4
May-October Averages:						
1930-1934	519.0	227.3	746.3	1,045.6	106.0	1,897.9
1935-1939	816.8	602.8	1,419.6	1,146.6	175.6	2,741.8
Annual:						
1939	166.2	487.4	653.6	1,262.6	234.5	2,150.7
1940	2.0	*	2.1	1,270.3	194.8	1,465.1

* Less than 500 boxes.

Source of data: Compiled from reports of U. S. Bureau of Foreign and Domestic Commerce.

TABLE 4

Oranges: United Kingdom Imports by Countries of Origin
(Calendar years)

Country of origin	Average 1929-1933		Average 1934-1938	
	1,000 boxes	per cent	1,000 boxes	per cent
Empire countries				
Palestine	2,113.8	13.8	4,830.5	29.8
South Africa *	1,512.0	9.8	2,387.1	14.7
Others	36.0	0.2	337.2	2.1
Total	3,661.8	23.8	7,554.8	46.6
Foreign countries				
Brazil	1,149.4	7.5	2,079.6	12.8
Spain	9,454.3	61.5	5,287.9	32.7
United States	816.4	5.3	1,105.2	6.8
Others	283.3	1.9	173.1	1.1
Total	11,703.4	76.2	8,645.8	53.4
Grand total	15,365.2	100.0	16,200.6	100.0

* Southern Rhodesia included in South Africa.

Source of data: Compiled from Great Britain, Imperial Economic Committee, Fruit Supplies in 1935 and 1938, Supplements to Weekly Fruit Intelligence Notes. Converted from hundredweights of 112 pounds to boxes of 74 pounds per box.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source of data: Compiled from reports of U. S. Bureau of Foreign and Domestic Commerce.

[illegible]

Country of origin	[illegible]		[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Source of data: "Compiled from Annual Statistics, Imperial Economic Committee, Imports Supplied in 1935 and [illegible] Supplements to Trading Trust Tariffs." Imports. Converted from hundredweights of 112 pounds to pounds of [illegible] pounds.

TABLE 5

Oranges: Canadian Imports by Countries of Origin
Years ending March 31

Country of origin	Average 1929-30 to 1933-34		Average 1934-35 to 1938-39	
	1,000 boxes	per cent	1,000 boxes	per cent
Empire countries				
United Kingdom	37	1.5	24	0.9
Palestine	18	0.7	22	0.8
South Africa	14	0.6	24	0.9
Australia	14	0.6	6	0.2
British West Indies	52	2.2	95	3.6
Total	135	5.6	171	6.4
Foreign countries				
United States	2,129	89.0	2,335	86.8
Japan	92	3.8	125	4.6
Spain	21	0.9	32	1.2
Italy	10	0.4	2	0.1
Brazil	4	0.2	16	0.6
Honduras	2	0.1	8	0.3
Total	2,258	94.4	2,518	93.6
All countries	2,393	100.0	2,689	100.0

Source of data: Compiled from Canada, Department of Trade and Commerce, Dominion Bureau of Statistics, Annual Report of Trade of Canada, 1933, 1938, and 1939.

TABLE 3

Ontario: Canadian Imports by Countries of Origin

Country of Origin	Average Imports [illegible]		Average Imports [illegible]	
	[illegible]	[illegible]	[illegible]	[illegible]
Single countries				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]
Trading-country blocs				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
All countries	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]
[illegible]
[illegible]

LEMONS

The outstanding fact in the present lemon situation is the large acreage of nonbearing and partial bearing trees. The prospective increase in lemon production from this acreage seems likely to overshadow developments on the demand side. While the increase in domestic demand during the next several years will probably more than offset the loss of exports, it is not likely to be sufficient to absorb the increased production. Surpluses which have plagued the industry in several of the recent years are expected to be larger and to occur more frequently.

The trend of lemon production in California is sharply upward. During the five years 1934-35 to 1938-39 production averaged 9,316,000 boxes a year, 30 per cent larger than the average of the previous five years (table 6). In both 1938-39 and 1939-40 production exceeded 11 million boxes, and present prospects are that the 1940-41 crop will be even larger. 5/

Crops of between 13 and 15 million boxes are likely to be the rule rather than the exception during the coming years. As of 1939, the latest year for which data are available, less than one half of the 69,300 acres of lemons in the state was in full production while one fifth of total acreage was of nonbearing age (table 7). As the nonbearing acreage begins to produce and as the young bearing trees increase in yield, a further marked rise in the trend of lemon production is expected.

Consumption of lemons in the United States has failed to keep pace with the increase in domestic production. Annual average consumption of lemons in this country was less than one million boxes larger during the five years 1934-35 to 1938-39 than during the five years 1924-25 to 1928-29, whereas annual average production was nearly 3 million boxes larger (table 6). On a per-capita basis consumption of lemons in the United States remained virtually stationary from 1920-21 to 1933-34 at around 3.7 pounds per person. Since 1933-34 per-capita consumption has averaged somewhat higher -- approximately 4 pounds.

During the past 15 years the pressure of increased supplies of California lemons in the domestic market has been relieved in three ways: by a reduction in imports, by an increase in exports, and by limitation of shipments. In addition, the California Fruit Growers Exchange which handles about 90 per cent of the state's lemon crop has carried on an aggressive advertising and merchandising campaign. Largely as the result of these factors, prices on fresh lemon shipments, particularly from 1931 to 1938, were maintained at attractive levels as compared with prices of alternative crops. During those eight years growers planted nearly 27,000 acres to lemons, and it is from this acreage that most of the future increase in production will come.

5/ As of February 1, 1941, the California Cooperative Crop Reporting Service official forecast of the 1940-41 lemon production in California was 13,588,000 boxes.

[illegible]

[illegible]

[illegible]

During each of the past eleven years more lemons were exported from the United States than were imported into this country. Prior to 1930-31 just the reverse situation prevailed -- imports exceeded exports. From 1924-25 to 1928-29 imports averaged 942,000 boxes a year and constituted 16 per cent of our total consumption. During the next five-year period, 1929-30 to 1933-34, annual imports fell to an average of 328,000 boxes, and in the period 1934-35 to 1938-39 to an average of 34,000 boxes. There have been no imports of lemons into this country during the past two years.

The gradual elimination of lemon imports, virtually all of which came from Italy, is attributable to several factors. In 1930 our import duty on lemons was raised from 2.0 cents to 2.5 cents a pound; large California crops of recent years have tended to increase the speculative hazard in importing lemons; and since 1933-34 Italy has had a smaller exportable surplus of lemons owing to a decline in her production.

Exports of California lemons during the five years 1934-35 to 1938-39 averaged 597,000 boxes a year as against an average of only 213,000 boxes a year during the period 1929-30 to 1933-34, a gain of 180 per cent (table 6). Between the same two five-year periods total California shipments increased 30 per cent. In the earlier period exports constituted 3.8 per cent of our total shipments; in the latter period, 8.1 per cent.

With the outbreak of war in September 1939, California lost all of its European lemon market, but in return gained virtually all of the Canadian market. During the year ending October 1940, the latest month for which data are available, our exports of lemons to all European countries combined totaled just 2,211 boxes. From August 1939 to April 1940 (the Monthly Report of the Trade of Canada was discontinued with the April 1940 issue), Canada obtained all of her lemon supplies from this country with the exception of 648 boxes.

On the basis of the five years 1935-1939 the loss of the European market would be only partially offset by the gain of the Canadian market. During those five years we exported an average of 225,600 boxes of lemons to Europe, while Canada imported an average of 90,600 boxes of lemons from Italy. On this basis, therefore, our net loss in exports occasioned by the war would be 135,000 boxes a year, an amount which is less than 2 per cent of our 1934-35 to 1938-39 average shipments.

It may be questioned whether we could have maintained our 1935-1939 level of lemon exports to a peaceful Europe and whether under war conditions Canada will continue to take as many lemons from California even though supplies from Italy are cut off.

The data on United States exports of lemons by countries of destination are summarized in table 8 . Prior to 1935 Canada was the principal export outlet for California lemons. Small shipments were sent to China, Japan, Philippine Islands, and New Zealand, but exports to European countries were virtually nonexistent. Italy and Spain together supplied all of the European market and in addition Italy supplied 37 per cent of Canada's requirements.

In 1935, for the first time, a significant volume of California lemons was shipped to Europe. Substantial shipments to Europe were also made in 1936, 1938, and 1939. These shipments, 82 per cent of which went to the United Kingdom,

resulted in part from the Italio-Ethiopian and Spanish civil wars, and in part from a decline in Italian lemon production. In November 1935 the League of Nations imposed economic sanctions against Italy on account of her invasion of Ethiopia. These sanctions which included among other things a boycott on Italian goods remained in force until July 15, 1936. During 1938 and the spring of 1939 exports of lemons from Spain were seriously curtailed on account of the civil war in that country. Lemon production in Italy has decreased during recent years, due largely to loss of trees from disease. The crops of 1934-35 to 1938-39 averaged about 30 per cent below those of the previous five years.

Even with the decrease in competition from Italy and Spain, our lemons had to be sold in European markets at prices considerably below those prevailing in this country. It is apparent that we had not obtained a secure foothold in the European lemon market and it seems doubtful if we can do so when Europe is at peace.

During the five years 1935-1939,[6] Canada imported an average of 393,000 boxes of lemons a year of which California supplied 73 per cent and Italy 23 per cent. The small remainder was mainly from Australia and the British West Indies. In the previous five-year period, 1930-1934, Canadian imports of lemons amounted on the average to 369,000 boxes a year of which 59 per cent were from California and 37 per cent from Italy.

Thus far in the present war Canada has maintained her imports of lemons at a relatively high level. In the year ending October 1940 she took 439,200 boxes of California lemons which probably constituted virtually all of her imports. This amount is larger than her 1935-1939 average imports from all sources.

If Canada continues to take as many lemons as she did in 1939-40, she will probably have to obtain most of them from California, since no other large source of supply is presumably open to her. Some lemons might be secured from Australia, Union of South Africa, British West Indies, Mexico and possibly Brazil, but normal production of lemons in each of these countries is small. A more important cause of any reduction in our lemon exports to Canada than competition from other countries would likely be curtailment in total Canadian imports of lemons. As a means of adjusting her economy to war needs, Canada may find it necessary to limit her imports of items considered to be nonessential.

Changes from year to year in the consumption of lemons in the United States have been influenced mainly by three factors: (1) incomes of consumers, (2) prices at which lemons were sold, and (3) summer temperatures. On the basis of a statistical analysis covering the years 1921-22 to 1938-39 an increase of 10 points in the index of nonagricultural income, with prices and summer temperatures held constant, was on the average accompanied by an increase of between

---

6/ Years ending March 31.

300,000 and 500,000 boxes in the volume of lemons consumed.[7] About the same conclusion is reached from an analysis of the purchases of lemons by families grouped on the basis of their incomes. These data indicate that an increase of 10 per cent in the income of each group would result in an increase in aggregate purchases of lemons by all groups combined of around 5 per cent. Applying this percentage to the 1935-1939 average consumption of lemons gives a figure of 340,000 boxes.[8] Thus on the basis of such evidence as is now available, it appears that the gain in domestic consumption of lemons from an increase of 10 per cent in the incomes of consumers in this country would much more than offset the loss of exports which has occurred.

However, an increase much larger than even 500,000 boxes in the domestic demand for lemons will apparently be needed if the prospective surplus situation in lemons is to be materially lessened. In 1939-40 with domestic shipments of 7,337,000 boxes, the largest on record, and with exports of 470,000 boxes, the quantity of merchantable lemons sent to product plants was over 3 million boxes. Unless yields per acre during the next several years are unusually low on account of unfavorable weather conditions or neglect of orchards, production is likely to be as large on the average as in 1939-40, and in some years substantially larger.

Past experience indicates that consumption of lemons is not greatly increased by a moderate reduction in prices. During the eighteen-year period 1921-22 to 1938-39 a decrease of $1.00 a packed box in the f.o.b. price, with incomes of consumers and summer temperatures held constant, was on the average accompanied by an increase in consumption of between 450,000 and 770,000 boxes.

In 1939-40 the f.o.b. price of packed lemons was $3.14 a box as against an average of $3.68 a box during the previous five years. With a cost for picking, hauling, packing, selling, and advertising of $1.35 a packed box which was the average cost for the ten years 1929-30 to 1938-39, an f.o.b. price of $1.00 a box below that of 1939-40 would fail by a considerable margin to cover even the cash costs of the more efficient growers.

---

[7] The linear multiple regression equation is:

$$x_1 = -206.7800 - \underset{(1.5654)}{6.1026}\, x_2 + \underset{(0.1027)}{0.4021}\, x_3 + \underset{(0.7500)}{3.2152}\, x_4$$

where

x_1 = United States apparent consumption of lemons in units of 100,000 boxes.

x_2 = annual average f.o.b. price of California lemons in dollars per box.

x_3 = index of nonagricultural income payments in the United States (average 1924-29 = 100) in percentage points.

x_4 = average mean maximum temperatures in 22 cities in the United States from May through September inclusive, in degrees Fahrenheit.

The figures in parentheses are standard errors.

[8] An increase of 10 per cent in the index of nonagricultural income from its 1935-1939 average is an increase of 8.7 points. On the basis of the multiple regression equation given in the previous footnote, an increase of 8.7 points in the index of nonagricultural income would give an increase in lemon consumption of 350,000 boxes.

It is by no means certain that prices of lemons would respond to even a strong inflationary movement. During the first World War lemon prices failed to rise along with prices of nearly all other commodities. From 1916-17 to 1919-20, f.o.b. prices of lemons averaged almost the same as during the five years 1909-10 to 1913-14, whereas the index of wholesale prices of all commodities was almost twice as high.

Since 1924-25 lemon packing associations affiliated with the California Fruit Growers Exchange have operated under a voluntary marketing agreement for the purposes of regulating the flow of shipments to market and of limiting shipments in years of excessive supplies relative to market demands. In October 1940 a hearing was held on a proposed federal marketing agreement and order which would embrace the entire industry. If the large production now in prospect materializes, it is probable that some sort of arrangement for withholding the surplus from regular commercial channels will be needed in order to prevent widespread bankruptcy among growers. But even with effective control of market supplies, it is doubtful if returns over the next several years can be maintained at a level sufficient to cover fully the costs of the average grower.

TABLE 6

Lemons: United States Production, Shipments, Exports, Imports, and Apparent Consumption

Year November-October	California production	California shipments	United States exports	United States imports	United States consumption
	1	2	3	4	5
	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes
Averages:					
1924-25 to 1928-29	6,494	5,112	258	942	5,796
1929-30 to 1933-34	7,151	5,666	213	328	5,781
1934-35 to 1938-39	9,316	7,333	597	34	6,770
Annual:					
1938-39	11,106	7,999	831	0	7,168
1939-40 *	11,963	7,807	470	0	7,337

* Preliminary.

Sources of data:

Col. 1: Compiled from reports of the California Cooperative Crop Reporting Service.

Col. 2: Based on reports of the California Cooperative Crop Reporting Service. The small volume of shipments from Arizona was added to the California figures.

Cols. 3 and 4: Compiled from reports of the U. S. Bureau of Foreign and Domestic Commerce.

It is of no usage surprise that prices of lemons would respond to even a [illegible] inflationary movement. During the first World War lemon prices fell to [illegible] along with prices of nearly all other commodities. From 1916-17 to 1918-19, prices of lemons averaged almost the same as during the five years 1909-10 to 1913-14, whereas the index of wholesale prices of all commodities was almost twice as high.

Since 1924-25 lemon packing as a [illegible] affiliated with the California Fruit Growers Exchange have operated under a voluntary marketing agreement for the purpose of regulating the flow of lemons to market with [illegible] advantage in view of excessive supplies relative to market demands. In October 1933 a hearing was held on a proposed federal marketing agreement and order which would embrace the entire industry. If the industry cooperation now in progress [illegible], it is probable that some kind of an agreement for withholding the surplus from regular commercial channels will be needed in order to prevent the general demoralization of growing prices. But even with effective control of supplies, it is the belief of [illegible] that the need of [illegible] [illegible] to cover fully the cost of the crop [illegible].

Table 5

Lemons: United States Production, Net Imports, Exports

Year	Production	Net imports	Exports	Total supply	Price
	Thousand boxes				Cents per box
Average					
1909-10 to 1913-14	[illegible]	9,112	[illegible]	[illegible]	[illegible]
1914-15 to 1918-19	7,161	8,308	[illegible]	[illegible]	[illegible]
1919-20 to 1923-24	8,110	7,[illegible]	[illegible]	[illegible]	[illegible]
1924-25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1925-26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1926-27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1927-28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1928-29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1929-30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1930-31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1931-32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1932-33	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1933-34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Sources of data:

Col. 1: Compiled from reports of the California Cooperative Crop Reporting Service.

Col. 2: Based on reports of the Bureau of Foreign and Domestic Commerce. The small volume of shipments from Arizona was added to the California figure.

Cols. 3 and 4: Compiled from reports of the U. S. Bureau of Foreign and Domestic Commerce.

TABLE 7

Lemons: Estimated Acreage in California in 1939 by Age Groups

Age of trees in years in 1939	Acres	Per cent
Under 6	14,043	20.3
6-10	18,325	26.4
11-15	4,593	6.6
16 and older	32,345	46.7
Total	69,306	100.0

Source of data:
California Cooperative Crop Reporting Service, Acreage Estimates California Fruit and Nut Crops as of 1939, June 1940, p. 25.

TABLE 8

Lemons: United States Exports by Countries of Destination

Year	Europe			Canada	Other countries	Total
	United Kingdom	Other Europe	Total Europe			
	1	2	3	4	5	6
	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes
Averages:*						
1930-1934	0.7	0.1	0.8	166.4	48.3	215.5
1935-1939	184.4	41.2	225.6	332.9	44.8	603.3
Annual:†						
1939	278.4	92.0	370.4	433.2	27.3	830.9
1940	.3	1.9	2.2	439.2	28.9	470.3

* Calendar years.
† Crop years ending October 31.

Source of data: Compiled from reports of U. S. Bureau of Foreign and Domestic Commerce.

TABLE 9

Lemons:* United Kingdom Imports by Countries of Origin
Calendar Years

Country of origin	Average 1929-1933		Average 1934-1938	
	1,000 boxes	per cent	1,000 boxes	per cent
Empire countries:				
Cyprus	1.8	0.1	28.6	1.6
Palestine	9.1	0.4	29.2	1.6
South Africa	7.7	0.3	32.7	1.8
Other	3.5	0.2	6.8	0.4
Foreign countries:				
Argentina	0.6	†	3.2	0.2
Brazil	1.8	0.1	4.4	0.2
Italy	1,729.8	78.1	1,107.9	61.8
Spain	381.1	17.2	354.6	19.8
Syria	30.6	1.4	71.6	4.0
United States	3.2	0.1	141.8	7.9
Others	46.3	2.1	11.8	0.7
Total Empire	22.1	1.0	97.3	5.4
Total foreign	2,193.4	99.0	1,695.3	94.6
Total	2,215.5	100.0	1,792.6	100.0

* Includes lemons, limes, and unspecified citrus fruits.
† Less than .05 per cent.
Source of data: Great Britain, Imperial Economic Committee, Fruit Supplies in 1935 and 1938. Supplements to Weekly Fruit Intelligence Notes. Converted from hundredweight of 112 pounds to boxes of 76 pounds.

TABLE 10

Lemons: (Including Limes) Canadian Imports by Countries of Origin
Year April-March

Country of origin	Average 1929-30 to 1933-34		Average 1934-35 to 1938-39	
	1,000 boxes	per cent	1,000 boxes	per cent
Empire countries:				
United Kingdom	9.1	2.5	1.4	0.3
Australia	2.2	0.6	2.7	0.7
British West Indies	3.8	1.0	11.8	3.0
Others	0.1	*	†	*
Total	15.2	4.1	15.9	4.0
Foreign countries				
United States	218.3	59.1	284.9	72.5
Italy	135.2	36.6	90.6	23.0
Spain	0.7	0.2	0.6	0.2
Others			1.2	0.3
Total	354.2	95.9	377.3	96.0
All countries	369.4	100.0	393.2	100.0

* Less than .05 per cent.
† Less than 50 boxes.
Source of data: Computed from Canada, Department of Trade and Commerce, Dominion Bureau of Statistics, Annual report of Canada, 1933, 1938, and 1939.

[illegible]

[illegible] Imports

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Foreign countries:				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

GRAPEFRUIT

Production of grapefruit in the United States has increased enormously, particularly in the past ten years. Average annual production during the five years 1934-35 to 1938-39 amounted to 29 million boxes as against an average of 15 million boxes during the previous five years (table 11). A record crop of nearly 44 million boxes was produced in 1938-39. Owing largely to a freeze in Florida, production last season fell to 35 million boxes. Present prospects are that the 1940-41 crop will be around 40 million boxes. 9/

All grapefruit-producing states contributed to the expansion in production but the major increase was in Texas, followed by Florida and Arizona (table 11). Production in California experienced the smallest increase both absolutely and relatively.

The age distribution of grapefruit trees in the United States is such that a further substantial increase in production is to be expected. In 1939, the latest year for which data are available, nearly two thirds of the bearing grapefruit trees were less than sixteen years of age. In both Arizona and Texas more than 90 per cent of the bearing trees had not yet reached full production.

United States commercial shipments of grapefruit for consumption as fresh fruit during the five years 1934-35 to 1938-39 averaged 43 per cent larger than in the previous five-year period, and 99 per cent larger than from 1924-25 to 1928-29 (table 12). This increase in shipments, however, was partially offset by a decrease in imports and receipts from Puerto Rico.

Exports of fresh grapefruit from the United States averaged slightly smaller during the five years 1934-35 to 1938-39 than during the preceding five-year period, although total United States shipments of fresh grapefruit were much larger (table 12). In the earlier five-year period, 1929-30 to 1933-34, 9 per cent of the total shipments were exported; in the latter period exports accounted for only 6 per cent of the total shipments.

The outlet for our fresh grapefruit in the United Kingdom, our most important market in Europe, was fast disappearing prior to the outbreak of war in September 1939. Between the two five-year periods 1929-30 to 1933-34 and 1934-35 to 1938-39 our average annual exports to the United Kingdom were reduced by 339,000 boxes or 56 per cent. Other European countries were increasing their takings from us, but such increase was small in comparison with the decrease to the United Kingdom (table 13).

During the past decade the sources of United Kingdom's fresh grapefruit supplies have shifted largely from the United States to the Empire countries of Palestine, the Union of South Africa, and British West Indies (table 14). In the five years 1929-1933 the United Kingdom took an average of 76 per cent of her fresh grapefruit imports from foreign countries, principally the United States,

---

9/ California Cooperative Crop Reporting Service. Citrus Fruit Report, February 1, 1941.

[illegible]

[illegible]

[illegible]

and 24 per cent from Empire countries. During the next five years, 1934-1938, the situation was almost reversed; only 31 per cent came from foreign countries, while 69 per cent came from Empire countries. Argentina, Brazil, and Portuguese East Africa were the only foreign countries to increase their shipments of fresh grapefruit to the United Kingdom during the decade of the thirties.

Since September 1939, United States exports of fresh grapefruit to Europe have been negligible. In the crop year 1939-40 such exports amounted to only 41,000 boxes, as against 341,000 boxes in 1938-39, and an average of 326,000 boxes during the five years 1934-35 to 1938-39. Virtually all of the 41,000 boxes were exported prior to April 1940. During the entire eight months of April through November 1940 exports of fresh grapefruit to Europe amounted to just 207 boxes.

As contrasted with the virtual disappearance of our exports of fresh grapefruit to Europe since the outbreak of hostilities, our exports to Canada have continued at a relatively high level. In the crop year 1939-40, exports to Canada amounted to 730,000 boxes, 19 per cent larger than the average exports of the previous five years. Exports to Canada from September through November 1940, totaled 152,000 boxes as against 149,000 boxes in the same three months of 1939.

In 1935 for the first time our exports of fresh grapefruit to Canada exceeded those to the United Kingdom, and during the five years 1934-35 to 1938-39 they were more than double those to the United Kingdom.

Canada has consistently imported the largest proportion of her fresh grapefruit from this country, averaging around 89 per cent during the past ten years. The remainder has been imported almost entirely from other American countries -- British West Indies, Honduras, Cuba, and Brazil.

There is the possibility that United States fresh grapefruit may experience somewhat keener competition in the Canadian market during the remainder of the war than in recent years. Countries in the American hemisphere which before the war shipped considerable quantities of fresh grapefruit to the United Kingdom may seek outlets in Canada, if the English markets remain closed or greatly curtailed and if the necessary cargo space can be secured. During the five years 1934-1938 countries in the American hemisphere other than the United States and Puerto Rico shipped an average of 402,000 boxes of fresh grapefruit a year to the United Kingdom (table 15). Over one half of these shipments were from British Empire countries. These Empire countries as well as most of the foreign grapefruit-producing countries in the American hemisphere also shipped some fresh grapefruit to Canada.

Canning has provided an increasingly important outlet for United States grapefruit during the past two decades. In the five years 1934-35 to 1938-39 an average of 33 per cent of the United States production was canned, as against an average of only 6 per cent in the five years 1924-25 to 1928-29. The average domestic pack of canned grapefruit -- segments and juice combined -- during the five years 1934-35 to 1938-39 amounted to 9,955,000 cases, as against an average of 2,565,000 cases during the four years 1930-31 to 1933-34 (table 16). In 1938-39 the domestic pack reached 15,837,000 cases, while in 1939-40 it was even larger. Since nearly one box of fresh fruit is required to pack a case of canned fruit, the quantity of grapefruit utilized in the 1938-39 canned pack was almost three fourths as large as the quantity used for commercial shipments as fresh fruit.

and 24 per cent from Empire countries. During the next five years, 1924-1928, [illegible] while 82 per cent came from Empire countries. Argentina, Brazil, and Portuguese East Africa were the only foreign countries to increase their shipments of fresh grapefruit to the United Kingdom during the decade of the thirties.

Since September 1939, United States exports of fresh grapefruit to Europe have been negligible. In the crop year 1939-40 such exports amounted to only 21,000 boxes, as against 941,000 boxes in 1938-39, and an average of 332,000 boxes during the four years [illegible]. Practically all of the 21,000 boxes were exported prior to April 1940. During the entire eight months of April through November 1940 exports of fresh grapefruit to Europe amounted to just 207 boxes.

As contrasted with the virtual disappearance of our exports of fresh grapefruit to Europe since the outbreak of hostilities, our exports to Canada [illegible] amounted to 720,000 boxes, 19 per cent larger than the average exports of the previous five years. Exports to Canada from September through November 1940 totaled 152,000 boxes as against 143,000 boxes in the same three months of 1939.

In 1939 for the first time our exports of fresh grapefruit to Canada exceeded those to the United Kingdom, and during the five years 1934-35 to 1938-39 they were more than double those to the United Kingdom.

Canada has consistently imported the largest proportion of her fresh grapefruit from this country, averaging around 80 per cent during the past ten years. The remainder has been imported almost entirely from other Dominion [illegible].

Europe is the possibility that United States fresh grapefruit may encounter some competition in the Canadian market during the remainder of the war than in recent years. Countries in the Mediterranean hinterland, before the war shipped considerable quantities of fresh grapefruit to the United Kingdom [illegible]. [illegible]

Canning has provided an increasingly important outlet for United States grapefruit during the past two decades. In the five years 1924-25 to 1928-29 an average of 22 per cent of the United States production was canned, as against an average of only 6 per cent in the five years 1919-20 to 1923-24. The canned juice is made of canned grapefruit -- segments and juice combined -- during the five years 1934-35 to 1938-39 amounted to 5,988,000 cases, as against an average of 2,386,000 cases during the four years 1930-31 to 1933-34 (table 16). In 1937-38 the domestic peak reached 10,277,000 cases, while in 1939-40 it was even larger. Since nearly one box of fresh fruit is required to make a case of canned fruit, the quantity of grapefruit utilized in the canned-juice pack was almost three fourths as large as the quantity used for commercial shipments as fresh fruit.

The loss of export outlets for canned grapefruit has been considerably larger than that for fresh grapefruit, although it did not occur as soon. During the five years 1934-35 to 1938-39, United States exports of canned grapefruit in equivalent fresh fruit averaged 1,151,000 boxes, of which 96 per cent went to the United Kingdom, and a little over 2 per cent to other countries in Europe. Less than 1 per cent went to Canada (table 17).

During the first seven months of the war, exports of canned grapefruit were maintained at a high level. Although other European countries had curtailed their takings shortly after the outbreak of hostilities, this loss was more than offset by the increase in exports to the United Kingdom. It was not until April 1940 that our exports of canned grapefruit to the United Kingdom were sharply reduced. From April to June 1940 such exports were only 43 per cent as large as in the same three months of 1939. Since June 1940 they have been negligible.

As contrasted with her large takings of fresh grapefruit, Canada's imports of canned grapefruit from this country have always been small. During the five years 1934-35 to 1938-39, our exports of canned grapefruit segments to Canada averaged only 9,200 cases. In both 1938-39 and 1939-40 they were still smaller. Canned grapefruit segments 10/ were included in the list of commodities prohibited from being imported into Canada from the United States by action of the Canadian Parliament in December 1940. Thus even the small outlet which Canada had previously provided for our canned grapefruit segments is now closed.

Considering both fresh and canned grapefruit together, the five-year period 1934-35 to 1938-39 seems to provide a reasonable basis from which to calculate the loss of export markets occasioned by the present European war. While the trend of exports of fresh grapefruit during that period was downward, the trend of exports of canned grapefruit was upward. During those five years countries which are now virtually closed to our grapefruit took an average of almost 1.5 million boxes a year in equivalent fresh fruit, 5.5 per cent of the United States production used for commercial fresh shipment and canning.

The loss of export markets in Europe, while substantial, seems likely to be more than offset within a year or two by an increased domestic demand arising out of larger incomes of consumers in this country. National income was materially larger in 1940 than in 1939. Under the impetus of rising defense expenditures, further substantial increases in national income during 1941 and 1942 are highly probable.

Data on the purchases of fresh grapefruit by families grouped on the basis of these incomes indicate that an increase of 10 per cent in the incomes of each group would tend to result in an aggregate increase in the purchase of fresh grapefruit by all groups combined of about 7 per cent. Similar data are not available on the relation between family incomes and their purchases of canned grapefruit. The relation, however, is probably much the same as for fresh grapefruit.

10/ Canned grapefruit juice, however, was not in the list of prohibited items.

[illegible] to the United Kingdom, and a little over 2 per cent to other countries in Europe. [illegible]

[illegible]

As contrasted with her large takings of fresh grapefruit, Canada's imports of canned grapefruit from this country have always been small. During the five years 1934-35 to 1938-39, our exports of canned grapefruit segments to Canada averaged only 9,200 cases. In both 1938-39 and 1939-40 they were still smaller. Canned grapefruit segments 1/ were included in the list of commodities prohibited from being imported into Canada from the United States by action of the Canadian Parliament in December 1940. Thus even the small outlet which Canada had previously provided for our canned grapefruit segments is now closed.

Considering both fresh and canned grapefruit together, the five-year period 1934-35 to 1938-39 seems to provide a reasonable basis from which to calculate [illegible] the trend of exports of fresh grapefruit during that period was downward, the [illegible] countries which are now virtually closed to our grapefruit took an average of [illegible]

The loss of export markets in Europe, while substantial, seems likely to [illegible]

Data on the purchases of fresh grapefruit by families grouped on the basis of these incomes indicate that an increase of 10 per cent in the incomes of each group would tend to result in an aggregate increase in the purchases of fresh grapefruit by all groups combined of about 7 per cent. Similar data are not available on the relation between family incomes and their purchases of canned grapefruit. The relation, however, is probably much the same as for fresh grapefruit.

1/ Canned grapefruit juice, however, was not in the list of prohibited items.

The apparent consumption of grapefruit in the United States during the five years 1934-35 to 1938-39 averaged about 25 million boxes in equivalent fresh fruit. To replace the loss in exports of about 1.5 million boxes, domestic consumption would need to be increased by about 6 per cent. On the basis of the relation between family incomes and their purchases of grapefruit mentioned above, a rise of between 8 and 9 per cent in the incomes of domestic consumers would tend to be accompanied by an increase in the domestic consumption of grapefruit of about 6 per cent. Between September 1939 and November 1940 the United States Department of Commerce index of total income payments, adjusted for seasonal variation, rose 8.5 per cent.[11] Thus there are grounds for supposing that the rise in incomes of domestic consumers may already have been sufficient to bring about an increase in domestic demand for grapefruit equal to the loss of exports. It must, of course, be recognized that estimates of this sort are subject to considerable error. But even on the basis of a smaller rate of increase in domestic demand than that indicated by the available evidence, it still seems probable that the loss of exports already incurred will be fully offset by the gain in domestic demand within a year or two.

The real problem facing the grapefruit industry in the immediate future is not reduced demand, since total demand seems likely to be larger for some time to come rather than smaller, but the prospect of heavy supplies. As already mentioned, the trend of grapefruit production in the United States is sharply upward and will probably continue upward for another five years, although at a somewhat slower rate than during the past decade.

Prices of grapefruit during the first World War rose not at all. In fact, from 1914-15 to 1917-18 prices averaged below the pre-war level, and with the exceptions of 1918-19 and 1921-22 they did not rise much above that level until 1924-25. Production of grapefruit, although small at the beginning of World War I, was increasing rapidly, and apparently the pressure of supplies in the market was sufficiently heavy to keep the prices of grapefruit low despite the general price inflation of 1916-17 to 1919-20. At the present time production of grapefruit is many times larger than in 1914, but on a relative basis the trend of production is about the same now as then.

---

[11] On a 1929 base equals 100 the index rose from 86.1 in September 1939 to 93.4 in November 1940.

The apparent consumption of grapefruit in the United States during the five years 1934-38 to 1938-39 averaged about 28 million boxes in equivalent fresh fruit. To replace the loss in exports of about 1.4 million boxes, domestic consumption would need to be increased by about 5 per cent. On the basis of the relation between family incomes and their purchases of grapefruit mentioned above, a rise of between 8 and 9 per cent in the income of domestic consumers would tend to be accompanied by an increase in the domestic consumption of grapefruit of about 5 per cent. Between September 1939 and November 1941 the United States Department of Commerce index of total income payments, adjusted for seasonal variation, rose 8.8 per cent.[1] Thus there are grounds for supposing that the rise in incomes of domestic consumers may already have been sufficient to bring about an increase in domestic demand for grape fruit equal to the loss of exports. It must, of course, be recognized that estimates of this sort are subject to considerable error, but even on the basis of a smaller rise of income in domestic demand than that indicated by the available evidence, it still seems probable that the loss of exports already incurred will be fully offset by the gain in domestic demand within a year or two.

The real problem facing the grapefruit industry in the immediate future is not reduced demand, since total demand seems likely to be larger for some time to come rather than smaller, but the prospect of heavy supplies. As already mentioned, the trend of grapefruit production in the United States is strongly upward and will probably continue upward for another five years, although at a somewhat slower rate than during the past decade.

Prices of grapefruit during the First World War rose not at all. In fact, from 1914-15 to 1917-18 prices averaged below the pre-war level, and with the exceptions of 1916-17 and 1921-22 they did not rise even above that level until 1924-25. Production of grapefruit, although small at the beginning of World War I, was increasing rapidly, and apparently the pressure of supplies in the market was sufficiently heavy to keep the prices of grapefruit low. A quite the general price inflation of 1919-17 to 1919-20. At the present time production of grapefruit is many times larger than in 1914, but on a relative basis the trend of production is about the same now as then.

---

[1] On a 1935 base equals 100 the index rose from 84.1 in September 1940 to 94.1 in November 1941.

TABLE 11

Grapefruit: United States Production by States

Crop season	Arizona	California	Florida	Texas	Total
	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes
Averages:					
1919-20 to 1923-24	51	375	7,077	23	7,526
1924-25 to 1928-29	152	670	9,001	428	10,251
1929-30 to 1933-34	526	1,357	11,533	1,534	14,950
1934-35 to 1938-39	1,978	1,922	16,540	8,525	28,965
Annual:					
1938-39	2,700	1,924	23,300	15,670	43,594
1939-40	2,900	1,975	15,900	14,400	35,175

Sources of data:

1919-20 to 1936-37: Compiled from U. S. Dept. Agr., Agricultural Statistics, 1940 and earlier issues.

1937-38 to 1939-40: California Cooperative Crop Reporting Service, California Citrus Fruit Report, February 1, 1941. Mimeograph dated February 10, 1941.

TABLE 12

Fresh Grapefruit: United States Commercial Shipments Imports, and Exports

Year September-August	Shipments	Imports *	Exports
	1	2	3
	1,000 boxes	1,000 boxes	1,000 boxes
Averages:			
1924-25 to 1928-29	8,284	783	632
1929-30 to 1933-34	11,524	634	1,039
1934-35 to 1938-39	16,460	265	978
Annual:			
1938-39†	20,819	76	1,235
1939-40†	16,801	175	811

* Includes receipts from Puerto Rico.

† Preliminary.

Sources of data:

Col. 1: From U. S. Dept. Agr., Surplus Commodities Administration, Division of Fruits and Vegetables, except data for California which are based on reports of the California Crop Reporting Service.

Cols. 2 and 3: Compiled from reports of U. S. Bureau of Foreign and Domestic Commerce.

TABLE II

Imports: United States Producers by States

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 13

Fresh Grapefruit: United States Exports by Countries of Destination

Year September-August	Europe			Canada	Other countries	Grand total
	United Kingdom	Other Europe	Total Europe			
	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes	1,000 boxes
Averages:						
1929-30 to 1933-34	603	34	637	375	27	1,039
1934-35 to 1938-39	264	62	326	611	41	978
Annual:						
1938-39	244	97	341	835	59	1,235
1939-40	19	22	41	730	40	811

Sources of data: Compiled from reports of U. S. Bureau of Foreign and Domestic Commerce.

TABLE 14

Fresh Grapefruit: United Kingdom Imports by Countries of Origin
Calendar Years

Country of origin	Average 1929-1933		Average 1934-1938	
	1,000 boxes	per cent	1,000 boxes	per cent
Empire countries:				
British Honduras	1.9	0.2	18.9	1.0
British West Indies	76.2	6.7	188.1	9.7
Palestine	81.0	7.1	819.2	42.5
South Africa	111.0	9.8	305.9	15.9
Others	5.8	0.5	5.8	0.3
Foreign countries:				
Argentina	2.6	0.2	19.5	1.0
Brazil	5.4	0.5	116.5	6.0
Cuba	63.1	5.6	26.2	1.4
Honduras	.3	*	27.2	1.4
Porto Rico	57.9	5.1	9.9	0.5
Portuguese East Africa	21.4	1.9	45.8	2.4
United States	690.9	60.9	328.7	17.1
Others	16.6	1.5	15.7	0.8
Total Empire	275.9	24.3	1,337.9	69.4
Total foreign	858.2	75.7	589.5	30.6
Grand total	1,134.1	100.0	1,927.4	100.0

* Less than .05 per cent.

Sources of data: Great Britain, Imperial Economic Committee, Fruit Supplies in 1935 and 1938, Supplements to Weekly Fruit Intelligence Notes. Converted from hundredweights of 112 pounds to boxes of 70 pounds per box.

TABLE 3

[illegible]: Total [illegible] by Countries of [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Sources of data: Compiled from reports of U. S. Bureau of Foreign and Domestic [illegible].

TABLE 4

Fresh Grapefruit: United Kingdom Imports by Countries of Origin

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

* Less than .05 per cent.

Sources of data: Great Britain, Imperial Economic Committee, Fruit Supplies in 1935 and 1936, Supplements to Monthly Fruit Intelligence Notes.

Converted from hundredweights of 112 pounds to boxes of 70 pounds per box.

TABLE 15

Fresh Grapefruit: United Kingdom and Canadian Imports from Countries in the American Hemisphere Other Than United States and Puerto Rico, Average 1934-1938

Country of origin	Imports into United Kingdom*	Imports into Canada †
	1	2
	1,000 boxes	1,000 boxes
Empire countries:		
British Honduras	18.9	13.0
Jamaica	141.4	15.7
Trinidad	46.7	6.2
Others	5.8	4.4
Total	212.8	39.3
Foreign countries:		
Argentina	19.5	0.0
Brazil	116.5	1.1
Cuba	26.2	3.2
Haiti	0.0	0.4
Honduras	27.2	26.1
Total	189.4	30.8
Grand total	402.2	70.1

* Calendar years.

† Years beginning April 1.

Sources of data:

Col. 1: Great Britain, Imperial Economic Committee, Fruit Supplies in 1938, a Supplement to Weekly Fruit Intelligence Notes, p. 36. Converted from hundredweights of 112 pounds to boxes of 70 pounds per box.

Col. 2: Canada, Dept. of Trade and Commerce, Dominion Bureau of Statistics, Annual Report of Trade of Canada, 1938 and 1939. Converted from pounds to boxes on the basis of 70 pounds per box.

TABLE 16

Canned Grapefruit: United States Pack, Receipts from Puerto Rico and Exports

Year *	Domestic pack †	Receipts from Puerto Rico †	Domestic exports †
	1,000 cases	1,000 cases	1,000 cases
Averages:			
1930-31 to 1933-34	2,565	138	497 ‡
1934-35 to 1938-39	9,955	316	1,151
Annual:			
1938-39	15,837	149	1,486

* Domestic packs are for the crop year September-August; receipts from Puerto Rico and domestic exports are for the fiscal year July-June.

† Domestic pack and receipts from Puerto Rico include segments and juice. Domestic exports include segments only.

‡ 1930-31 for six-month period; exports not segregated prior to January 1, 1931.

Source of data: Compiled from U. S. Dept. Agr., Agricultural Statistics, 1940, p. 213, except 1939-40 from Washington, D. C., by correspondence.

[illegible]

French Guiana is United States and Canadian imports from Guiana in the [illegible] Dollars [illegible] Dollars [illegible] 1941 [illegible]

[illegible]	[illegible]	[illegible]
Imports c.i.f.		
United Kingdom	[illegible]	[illegible]
Canada	[illegible]	[illegible]
United States	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Foreign countries		
Argentina	[illegible]	[illegible]
Brazil	[illegible]	[illegible]
Cuba	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]

[illegible] Tiers Mexicanos [illegible]

[illegible]

[illegible] Guiana in 1941, a Department of [illegible] Tiers Mexicanos [illegible] p. [illegible] 0 [illegible] from [illegible] of [illegible] to [illegible] of 70 [illegible] per [illegible].

[illegible] Chamber of Trade and Commerce, [illegible] of [illegible] Chamber of Trade of [illegible] and [illegible] [illegible] for [illegible] on the basis of 70 [illegible] per [illegible].

[illegible] IV

[illegible] Guiana: United States [illegible] Imports f.o.b. Foreign and [illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible] Domestic [illegible] from the [illegible] from Puerto Rico and [illegible] [illegible] Federal [illegible] [illegible] Federal [illegible] and [illegible] from [illegible] [illegible]

[illegible] 1170-51 for six-month periods [illegible]

TABLE 17

Canned Grapefruit Segments: United States Exports by Countries of Destination

Year July-June	Europe			Canada	Other countries	Grand total
	United Kingdom	Other Europe	Total Europe			
	1,000 cases	1,000 cases	1,000 cases	1,000 cases	1,000 cases	1,000 cases
Averages:						
1931-32 to 1933-34	577.7	4.0	581.7	6.7	4.3	592.7
1934-35 to 1938-39	1,103.6	26.6	1,130.2	9.2	11.7	1,151.1
Annual:						
1938-39	1,458.3	6.5	1,464.8	8.1	13.4	1,486.3
1939-40	1,770.9	1.8	1,772.7	7.5	9.9	1,790.1

Source of data:

Compiled from reports of U. S. Bureau of Foreign and Domestic Commerce. Data converted to cases on the basis of 30 pounds per case.

TABLE IV

Course of Quarterly Statistics: Total and Stomach Liquors by Counties, of Deaths and

Source of data.

Compiled from reports of Dr. C. Thomas of Forfar, and Dundee Quarterly.

Data commenced in 1[illegible] in the Burgh of [illegible] [illegible].

ALMONDS

The United States commercial production of almonds is almost wholly confined to California where about 99 per cent of the total output is grown. The United States is both a producer and importer of almonds; the bulk of almond imports are shelled nuts. During the past ten years domestic production has varied from 42 per cent to 90 per cent of total supplies, with a marked tendency towards a decreased volume of imports. For the five crop years from 1934-35 to 1938-39, almond imports have averaged about 42 per cent of total domestic disappearance and the bulk of the imports has originated in the Mediterranean Basin. Therefore, the current European war and its repercussion on the international movement of commodities are of prime importance to the almond industry in the United States, especially in California.

The table on page 30 shows some pertinent statistics of the United States almond industry. Total acreage (bearing and nonbearing) during the five-year period 1934-38 averaged about 10 per cent greater than during the preceding five years, 1929-33. This increase was largely due to expanded nonbearing acreage; bearing acreage has remained about constant. Since the nonbearing acreage is located in the better producing areas and is developed under most modern cultural practices, when it does come into bearing the yield will probably be relatively high and will be reflected in the volume of production.

During the ten-year period 1929-1938, annual almond production varied widely from a low of 4,700 tons in 1929-30 to a high of 20,000 tons in 1937-38. For the last five years production, however, has averaged only slightly higher than that of the preceding five years. But with substantial nonbearing acreage likely to have high yields coming into bearing, it is probable that during the coming decade the volume of production will further increase.

United States imports of almonds have shown a marked decrease during the past ten years. Although imports have not consistently decreased from year to year, over the period as a whole the trend has been downward. As the volume of imports has decreased, domestic production has become relatively more important as a component of United States total supplies. The five-year averages shown in the table on page 30 do not fully indicate the extent to which domestically produced almonds have gradually come to dominate the United States market. In fact, 1929-30 domestic production was only 13 per cent of the United States supply, whereas in 1938-39 and 1939-40 the corresponding proportions were 87 per cent and 90 per cent, respectively. Relatively small imports during the 1939-40 season were largely due to a crop failure and resulting small exportable surplus in Italy, the leading almond producer in the Mediterranean Basin. Furthermore, Spain had not fully recovered from her Civil War. Imports from France, French Morocco, China, and other countries have been of only slight consequence during the past decade.

As a means of encouraging almond exports to this country, the Italian government put into effect an export subsidy scheme. The Italian government made arrangements, effective May 1940, to give a 20 per cent rebate on all future shipments or deliveries of Italian almonds to the United States. Such a subsidy counteracts by about one third the present United States tariff of $16\frac{1}{2}$ cents on

As a United States commercial industry the production of almonds is almost wholly confined to California where about 99 per cent of the total output is grown. The United States is both a producer and importer of almonds, the bulk of almond imports are shelled nuts. During the past ten years domestic production has varied from 45 per cent to 90 per cent of total supplies, with a marked tendency toward a decreased volume of imports. For the five crop years from 1934-35 to 1938-39, almond imports have averaged about 41 per cent of total domestic disappearance, and the bulk of the imports has originated in the Mediterranean Basin. Therefore, the current European war and its repercussions on the international movement of commodities are of prime importance to the almond industry in the United States, especially in California.

The table on page 60 presents certain statistics of the United States almond industry. Total acreage (bearing and nonbearing) during the five-year period 1934-38 averaged about 10 per cent greater than during the preceding five years, 1929-33. This increase was largely due to expanded nonbearing acreage; bearing acreage has remained about constant. Since the nonbearing acreage is located in the better producing areas and is developed under most modern cultural practices, when it does come into bearing the yield will probably be relatively high and will be reflected in the volume of production.

United States commercial almond production, though varying greatly from year to year, rose from a low of 4,170 tons in 1929-30 to a high of 21,000 tons in 1937-38, but the last five-year production, however, has averaged only slightly higher [illegible] likely to have high yields coming into bearing, it is probable that during the coming decade the volume of production will further increase.

United States imports of almonds have shown a marked decrease during the last ten years. Although imports have not consistently decreased from year to year, over the period as a whole the trend has been downward. As the volume of imports has decreased, domestic production has become relatively more important as a component of United States total supplies. The figures on imports given in the table on page 60 do not fully indicate the extent to which domestically produced almonds have gradually come to dominate the United States market. In fact, 1924-28 domestic production was only 18 per cent of the United States supply, whereas in 1934-38 the corresponding proportions were 57 per cent and 43 per cent, respectively. Relatively small imports during the 1934-38 years were largely due to crop failures and resulting small exportable supplies in Italy, the leading almond producer in the Mediterranean Basin. Furthermore, Spain has not fully recovered from her civil war. Imports from France, French Morocco, China, and other countries have been of very slight importance during the past decade.

As a means of encouraging almond exports to this country, the Italian Government has in the past resorted to export subsidy schemes. The Italian government made arrangements, effective in May 1939, to give a 20 per cent rebate on all future shipments of Italian almonds to the United States. Such a subsidy automatically would [illegible] the present United States tariff of [illegible] cents a

shelled almonds.[12] Italian almond production for the crop year 1940-41 is estimated to be almost four times as large as that of the previous season, and 45,000-50,000 tons of shelled almonds are available for export. In addition, because of the current war, Italy has lost her major export outlets -- England, France, Belgium, the Netherlands, and Scandinavian countries -- which previously purchased about 50 per cent of the Italian supply. Therefore, Italy is endeavoring to export more almonds to the United States. The large exportable surplus, in conjunction with the export subsidy and the curtailment of other export outlets, accounts for unusually strong Italian export pressure. But war in the Mediterranean and the British blockade preclude substantial exports of almonds from Italy.

Spain, the other major country of origin for United States imports of almonds, exported much less after 1936-37 than in earlier years. The reduced volume of exports is largely attributable to the Spanish Civil War. The 1940-41 Spanish crop is estimated to be about 25,000 tons, shelled, of which about 90 per cent is available for export. Trade comments are that a considerable volume of orders for shelled almonds have been placed in Spain within recent months. Due to the prevailing uncertain situation in international trade and the lack of shipping space, there is some doubt whether Spanish exporters are in a position to make satisfactory deliveries. Spanish almonds might be exported to Germany which is the largest consumer of almonds in the world and to England which has recently concluded a commercial treaty with Spain. At least during the war, the volume of almond imports into the United States will be drastically curtailed and California producers will have to supply practically all of the domestic needs.

Although almond imports will probably continue to remain low during the current war, the domestic almond industry is likely to encounter increased competition from other nuts imported. During peace times over half of the crop of Brazil nuts used to be marketed in Germany and England. With the loss of those markets Brazilian exporters might endeavor to increase exports to this country. In fact, during the past four years Brazil nuts have made up, on the average, about 25 per cent of total imports and about 12 per cent of total consumption of tree nuts in the United States. In addition, substantial supplies of walnuts, pecans, and filberts might compete with almonds in consumption. Cashews, grown principally in India, have been imported into this country in increasing amounts. The phenomenal increase may be indicated by the fact that in 1929 cashew imports amounted to slightly over 4 million pounds, whereas in 1939 imports were almost 29.5 million pounds.

Since the California almond industry has not operated under a state or federal marketing agreement, almonds have not had price-supporting measures other than those operated by the industry itself. Farm prices have fluctuated widely from a low of 8.3 cents per pound in 1932-33 to a high of 24.0 cents per pound in 1929-30. During the five-year period 1934-38, farm prices have ranged

---

[12] Domestic almonds are protected under terms of Section 303 of the Tariff Act of 1930, which provides that whenever any country bestows a bounty or grant upon a product dutiable under the act, there shall be levied and paid on such merchandise when imported into the United States additional duties equal to the net amount of each bounty or grant.

---

estimated to be almost four times as large as that of the previous season, and 16,000-ton of shelled almonds are available for export. In addition, because of the aftermath war, Italy has lost her major export markets -- France, Belgium, the Netherlands, and Scandinavian countries -- which previously purchased about 50 per cent of the Italian supply. Therefore, Italy is endeavoring to export more almonds to the United States. The large exportable surplus, in conjunction with the export subsidy and the curtailment of other markets, accounts for unusually strong Italian export pressure. But war in the Mediterranean and the British blockade preclude substantial exports of almonds from Italy.

Spain, the other major country of origin for United States imports of almonds, exported much less after 1939-40 than in earlier years. The reduced volume of exports is largely attributable to the Spanish Civil War. The 1940-41 Spanish crop is estimated to be about 25,000 tons, shelled, of which about 60 per cent is available for export. Trade comments are that a considerable volume of orders for shelled almonds have been placed in Spain within recent months. Due to the prevailing uncertain situation in international trade and the lack of shipping space, there is some doubt whether Spanish exporters are in a position to make satisfactory deliveries. Spanish almonds might be exported to Germany which is the largest consumer of almonds in the world and to England which has recently concluded a commercial treaty with Spain. At least during the war, the volume of almond imports into the United States will be drastically curtailed and California producers will have to supply practically all of the domestic [illegible].

Although almond imports will probably continue to remain low during the current war, the domestic almond industry is likely to encounter increased competition from other nuts imported. During peace times over half of the crop of French nuts used to be marketed in Germany and England. With the loss of these markets Brazilian exporters might endeavor to increase exports to this country. In fact, during the past four years Brazil nuts have made up, on the average, about 25 per cent of total imports and about 12 per cent of total consumption of tree nuts in the United States. In addition, substantial supplies of walnuts, pecans, and filberts might compete with almonds in consumption. Walnuts, grown principally in Italy, have been imported into this country in increasing amounts. The phenomenal increase may be indicated by the fact that in 1935 imports amounted to slightly over 4 million pounds, whereas in 1939 imports were almost 25.5 million pounds.

Since the California almond industry has not operated under a state or other trade agreement, [illegible] operated by the industry itself. Farm prices have fluctuated widely from a low of 8.5 cents per pound in 1932-33 to a high of 24.0 cents per pound in 1935-36. During the five-year period 1934-38, farm prices have ranged

---

1/ Domestic almonds are protected under terms of Section 338 of the Tariff Act of 1930, which provides that whenever any country bestows a bounty or grant upon the product dutiable under the act, there shall be levied and paid on such merchandise when imported into the United States additional duties equal to the amount of such bounty or grant.

from 9.0 cents to 20.1 cents per pound, with a weighted average price of 10.5 cents per pound. This compares with a corresponding price of 12.9 cents for the preceding five-year period. However, it should be noted that domestic producers have the benefit of a protective tariff of $5\frac{1}{2}$ cents per pound on unshelled and $16\frac{1}{2}$ cents per pound on shelled imported almonds. It is fairly clear that farm prices would have been somewhat lower than they were if the tariff protection did not exist; the amount that prices would have been lower is difficult to ascertain since the volume of imports depends on many factors such as the volume of production in the exporting countries and foreign exchange conditions.

The course of almond prices during the current war in Europe and perhaps for a year or two after the war is difficult to forecast. However, several plausible assumptions may be made concerning the supply-demand situation, and on the basis of such assumptions may be ventured a general statement regarding the outlook of almond prices and the position of the industry.

It is reasonable to assume that unless extremely unfavorable weather conditions occur, domestic almond production will increase, since almost 20 per cent of total almond acreage is classified as nonbearing. However, the increase in domestic production will not be as large as the decrease in imports. Consequently, total supplies available may be assumed to be not in excess of the average of the preceding five years.

In regard to the demand situation, it is reasonable to assume an increase in demand. Augmented business activity resulting in fuller employment and increased money incomes to consumers may be expected for the immediate future. However, increased taxation and competition from other nuts may partly counteract the forces tending to increase the demand for California almonds.

On the basis of the above premises it appears that almond prices will advance and net returns to the industry will be increased. Although short-run considerations may superficially appear to favor expanded acreage, present indications are that from the long-run view a more appropriate policy would be not to expand acreage. Return to more normal international trade conditions, which may follow the current war, would bring large imports of almonds. Such recurring imports would again compete with domestic production as in former years, and there is likely to emerge serious physical surpluses of domestic almonds. The impact of the war on the domestic almond industry is likely to be favorable for the duration of the war and the near future. But failure to recognize the present situation as one of a short-run nature may eventually require serious readjustments in order to bring domestic almond production in line with a profitable level of post-war total supplies in relation to demand.

[illegible]

TABLE 18

California Acreage, Production, Farm Prices, and United States Imports of Almonds

Year beginning September 1	California Acreage: Non-bearing	California Acreage: Bearing	California Production	United States imports (unshelled equivalent)	United States supply (unshelled equivalent)	California production as per cent of United States supply	California farm price
	1	2	3	4	5	6	7
	acres	acres	tons	tons	tons	per cent	cents per pound
1929-30	6,526	71,978	4,700	31,222	35,922	13.1	24.0
1930-31	4,896	71,496	13,500	18,742	32,242	41.9	10.0
1931-32	4,688	71,117	14,800	11,900	26,700	55.4	8.8
1932-33	4,157	70,767	14,000	7,023	21,023	66.6	8.3
1933-34	5,912	70,909	12,900	4,245	17,145	75.2	9.3
1934-35	6,162	71,804	10,900	4,907	15,807	69.0	9.0
1935-36	9,400	72,700	9,300	17,883	27,183	34.2	14.0
1936-37	14,863	69,396	7,600	15,811	23,411	32.5	20.1
1937-38	16,241	71,254	20,000	3,868	23,868	83.8	13.8
1938-39	17,271	72,294	15,000	2,294	17,294	86.7	12.9
1939-40 (preliminary)		73,900	19,200	2,025	21,225	90.5	10.5
Average:							
1929-30 to 1933-34	5,236	71,253	11,980	14,626	26,606	45.0	13.2*
1934-35 to 1938-39	12,787	71,490	12,560	8,953	21,513	58.4	14.4*

* Weighted average. Crop-year prices in col. 7 weighted by United States supply in col. 5.

Sources of data:

Cols. 1, 2, 3, and 7: California Cooperative Crop Reporting Service. California Fruit and Nut Crop Annual Summaries, and Acreage Estimates California Fruit and Nut Crops. Annual issues.

Col. 4: United States Department of Commerce. Monthly Summary of Foreign Commerce of the United States. (Imports of shelled converted on the basis of 1 pound shelled almonds equivalent to 3 pounds unshelled.)

Col. 5: Col. 3 plus col. 4.

Col. 6: Col. 3 as a per cent of col. 5.

TABLE 19

United States Imports of Shelled Almonds, by Countries of Origin
From 1929-30
(Short tons)

Year Sept.-Aug.	France	French Morocco	Italy	Spain	United * Kingdom	Hong Kong*	Other countries	Total
1929-30	64	78	4,950	4,326			85	9,503
1930-31	109	35	2,805	3,205			84	6,238
1931-32	81	17	1,452	2,399			17	3,966
1932-33	33	37	528	1,715			4	2,317
1933-34	45	31	174	1,121			42	1,413
1934-35	24	40	361	1,198	†	10	2	1,635
1935-36	57	4	2,015	3,435	†	12	3	5,506
1936-37	221	13	3,338	1,498	40	†	65	5,175
1937-38	43	12	875	341	13	†	5	1,289
1938-39	10	9	503	242	†	0	†	764
1939-40	18	17	367	250	0	0	†	652

* Not listed separately until 1934-35.
† Less than one-half ton.

Sources of data:
California, Federal-State Market News Service, Foreign Almond Report.
1929-30 to 1933-34 from No. 127.
1934-35 to 1938-39 from No. 265.
1939-40: U. S. Dept. Agr. Federal-State Market News Service, Almond Market Information Bulletins, monthly mimeographs.

TABLE 12

United States Imports of Shelled Almonds, by Countries of Origin
From 1920-40
(Short tons)

Year	Spain	Italy	Portugal	Syria	Other Mediterranean countries	Other countries	Total	Percent
1920-21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1921-22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1922-23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1923-24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1924-25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1925-26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1926-27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1927-28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1928-29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1929-30	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1930-31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1931-32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1932-33	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1933-34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1934-35	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1935-36	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1936-37	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1937-38	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1938-39	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1939-40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Sources of data:

[illegible]
1920-20 to 1923-24 from No. 147;
1924-25 to 1940-39 from No. 240;
[illegible]
[illegible]

OLIVES

The United States olive producing industry, which is almost wholly concentrated in California, has been directly affected to a considerable extent by the European war. In contrast to the California dried and canned fruit industries, which in general are on an export basis, the domestic olive industry usually encounters competition with imported olive products. Whereas most fruit industries face the loss of export markets, the olive industry is in a position to supply a portion of the domestic market which formerly received olive imports from Europe. However, the ability to meet domestic needs is limited by volume of domestic acreage and production.

California olive bearing acreage gradually increased from 24,474 acres in 1922 to a peak of 29,047 acres in 1928. Since then bearing acreage has decreased so that by 1939 it is estimated at 23,900 acres, which is close to the bearing acreage existing in 1922. Due to a severe frost in the winter of 1932-33 and the cutting back of many trees, there was a marked decrease of 5,543 acres (bearing) between 1932 and 1933. During the following two years, however, bearing acreage increased sufficiently to approximate the acreage existing in 1932. California olive producing capacity, in terms of bearing acres, is at present at about the same level as in 1922.

In contrast with bearing acreage, the situation in nonbearing acreage is markedly different from what it was in the years immediately following the earlier European war. In 1924, nonbearing acreage was 6,224 acres or about 23 per cent of total olive acreage. Since that year the nonbearing area has generally decreased so that by 1938 it was 620 acres or about 2.5 per cent of total acreage. Consequently increased production for the next several years largely depends on the rapidity with which present bearing acreage comes into full bearing and neglected trees are rehabilitated.

Although annual production has fluctuated from year to year, depending upon climatic conditions, in general it has followed a rising trend since 1922. Annual average production for the five-year period 1929-30 to 1933-34 averaged 18,600 tons, whereas from 1934-35 to 1938-39 the annual average was 29,800 tons. The wide variations from year to year are indicated by the comparison of 44,000 tons in 1938-39 with the preliminary estimate of 22,000 tons for 1939-40.

California olive production is utilized largely for canning and crushing. Table 20 indicates, in summary form, the utilization of California olives. Consumption of green olives pickled in brine is of no consequence in utilizing California olives, and those crushed for oil supply only a small proportion of the olive oil (edible and inedible) consumed in this country. California canned ripe olives, however, constitute the major part of the domestic supply of that form of olives.

Olive Oil.-- Domestic production of olive oil is prepared as edible and inedible. Domestically produced edible olive oil has increased in volume from an annual average of 172,000 gallons for 1924-28 to 287,000 gallons average for 1929-33, and 392,000 gallons average for 1934-38. An all-time high of 962,000 gallons in 1939 was followed by a relatively low volume of 260,000 gallons estimated for 1940. Although domestic production of edible olive oil has increased both in absolute terms and in relation to total disappearance, it is still only a small percentage of total disappearance. The proportion has varied

from a low point of 0.8 per cent in 1923 to 11.4 per cent in 1939. For the period 1924-28 domestic production of edible olive oil averaged 1.7 per cent of total disappearance, 2.8 per cent for 1929-33, and 4.9 per cent for 1934-38. These data emphasize the importance of imports of edible olive oil in meeting domestic utilization.

The bulk of imported edible olive oil usually originates in Italy, Spain, France, Greece, Algeria and Tunisia, with approximately half coming from Italy. All of these countries border on the Mediterranean, and Italy and Greece are at present directly involved in the European war. It is unlikely that during the war imports will be received from Italy. Shipments from Greece, Spain, France and northern Africa are very problematical because of the difficulty in arranging and satisfactorily carrying through such trade.

The effect of the war on the price and market of edible olive oil in this country is already evident, and is likely to be more marked as stocks on hand are depleted. However, growers must not regard such a situation as warranting expanded olive acreage. After the war this country will again be on an import basis and domestic producers will have difficulty in meeting the competition of Mediterranean producers of edible olive oil.

The United States is heavily dependent upon Mediterranean countries for supplies of inedible (denatured and other) olive oil used in manufactures. About 99 per cent of the apparent disappearance of inedible olive oil is imported. Spain, northern Africa, Greece and Italy have supplied the bulk of the imports. During the 1934-38 period, Spain, Algeria and Tunisia have shipped about 80 per cent of the total imports in this country; and supplies from those countries, as long as they are nonbelligerent, may continue to arrive in some volume. But it will be much less than formerly, due to difficulty in making trans-Atlantic shipments.

The supply of olive oil foots will also be much restricted by the current European war. During 1934-38 net imports of olive foots averaged 26,364,000 pounds and for the same period apparent disappearance averaged 26,052,000 pounds. These statistics indicate that olive oil foots are wholly imported. They originate in the same Mediterranean countries from which other inedible olive oil supplies are exported.

The olive oil market, edible and inedible, will undoubtedly be very firm as long as the European war continues and movement of goods from the Mediterranean Basin to this country is hampered by high freight rates or obstructed by blockades. California olive production is more suitable for uses other than crushing for oil. California Missions and Manzanillos are the only canning varieties usually used for oil since Queen olives have a low oil content. However, it is likely that in the near future a larger proportion of the olive crop will be crushed for oil because of the favorable olive oil prices. But the prices of ripe canning olives and edible oils such as cottonseed, coconut and corn will partly determine whether it is more profitable for California producers to crush a larger proportion of their olives.

Canned Ripe Olives.-- Besides the utilization of olives for crushing for oil, a large proportion of the California production is utilized in canned ripe olives. Although the proportion of total production canned ripe decreased from an annual average of 45.8 per cent for the five-year period 1929-30 to 1933-34

[illegible]

to 34.4 per cent for 1934-35 to 1938-39, the pack tended to increase in absolute terms. During the earlier five-year period the average annual pack was 513,600 cases, and for the latter period the pack amounted to about 698,200 cases. Annual average shipments also increased from 530,000 to 698,400 cases. During the past season canned olive sales were very high, and it is estimated that by the end of the canned olive season (November 30) 880,000 cases had been shipped. This figure slightly exceeds the previous record of 872,000 cases for the 1928-29 season. The heavy movement during the past season indicates that a small carry-over, estimated at 111,000 cases, was on hand December 1, 1940.

From an estimate of 1940 production between 35,000 and 40,000 tons, it is at present expected that canners will take about 14,000 tons, which will pack into about 980,000 cases (70 cases per ton). This record size pack supplemented by the small carryover of 111,000 cases will make available for shipment 1,091,000 cases, which exceeds any previous amount. However, if shipments are at least equal in volume to the 1939-40 season, the year-end stocks will not be excessive. In fact, because of increased money incomes there are grounds for expecting increased sales of canned ripe olives.

Regardless of the large pack, canned ripe olive prices are likely to be firm during the present season. Demand for olives for crushing for oil will be reflected in prices for canned olives. The following tabulation gives the prices by sizes, which have been established according to trade reports.

Prices of Canning Mission and Manzanello
Olives to California Growers
(Dollars per ton)

Size	1939	1940
Standards	60	55
Medium	75	75
Large	90	90
Extra large	100	105
Mammoth and larger	110	115

The above tabulation lists preliminary minimum prices voluntarily agreed upon by canners and growers. It is not unlikely that a stringency in the olive oil market, due to the war and much decreased imports, will result in the demand of olive crushers competing with canners so that prices to growers for canning olives will average considerably higher than the minimum prices listed above.

Reports of the California Olive Association indicate that from 1934-35 to 1936-37 exports of canned ripe olives have averaged about 1.1 per cent of total shipments. Consequently canners of ripe olives are not affected appreciably by loss of export markets. The reports also point out that from 50 to 55 per cent of the total pack of California canned ripe olives is consumed in the state. Therefore, the relatively large supplies available for shipment during the coming season will make possible further expansion of the domestic market. Such a situation is very favorable since the supplies of green and ripe olives usually imported from Mediterranean countries will probably be smaller during the war than under other circumstances.

[illegible]

[illegible]

[illegible]

Regardless of the large estimated California olive production for the 1940-41 season, the position of the domestic olive oil and canned ripe olive industries appears to be more favorable than any other season during the past decade. The conjuncture of a large crop, much decreased olive oil imports, and expected increase of consumers' money income point to an expanded volume of disappearance of domestic olives. However, the temporary nature of the current situation does not warrant immediate expansion of productive capacity through increased plantings. Not until it becomes more certain that the decreased imports of olive oils and increased domestic income will continue for a period of years will olive producers have adequate basis for acreage expansion.

TABLE 20

California Olives: Production and Utilization

Period (Years beginning September 1)	Production*	Total sold	Per cent of total sold			
			Canned ripe	Crushed for oil	Miscellaneous processing	Out-of-state shipments
	1	2	3	4	5	6
	fresh tons	fresh tons	per cent	per cent	per cent	per cent
Average:						
1929-30 to 1933-34	18,600	17,400	45.8	40.8	10.9	2.5
1934-35 to 1938-39	29,800	29,000	34.4	47.9	14.5	3.2
Annual:						
1938-39	44,000	40,800	16.9	60.1	19.6	3.4
1939-40†	22,000	21,800	52.7	29.8	13.8	3.7

* Includes unharvested tonnage: 1932, 5,000 tons; 1938, 3,000 tons.
† Preliminary.

Source of data:

Compiled from United States Department of Agriculture, Division of Marketing and Marketing Agreements, Economic Analysis Unit, Economic Statistics Relating to the California Olive Industry, by Donald R. Rush, February 1940. (Mimeo.)

TABLE 21

United States Imports of Olive Oil, by Countries of Origin
Annually from 1931-32
(1,000 pounds)

	Year beginning June							
	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39
Olive oil, edible:								
Italy	47,116	45,841	32,926	33,365	28,578	27,023	32,019	39,442
Spain	27,823	21,712	21,379	25,775	35,148	22,157	6,523	5,895
France	2,395	1,920	2,350	2,309	2,914	4,608	8,753	5,186
Greece	42	1,458	516	681	388	1,449	3,446	9,540
Other Europe	162	98	94	95	193	298	345	366
Total Europe	77,538	71,029	57,265	62,225	67,221	55,535	51,086	60,429
Algeria and Tunisia	1,114	1,300	154	300	1,006	2,106	7,529	5,117
Other countries	37	36	14	37	18	44	50	118
Total	78,689	72,365	57,433	62,562	68,245	57,685	58,665	65,664
Olive oil, inedible:								
Italy	28,831	19,096	17,863	8,675	1,606	11,929	2,699	--*
Spain	20,352	10,847	9,173	8,064	10,631	6,233	98	57
Greece	3,030	11,329	8,039	14,439	8,471	5,453	4,528	14,982
Portugal	1,445	1,625	1,122	2,398	653	3,667	2,935	8,446
Other Europe	741	50	3	1	0	353	245	11
Total Europe	54,399	42,947	36,200	33,577	21,361	27,635	10,505	23,496
Algeria and Tunisia	4,110	9,527	10,315	18,250	15,172	11,303	5,991	14,790
Other countries	359	319	0	764	9	44	519	161
Total	58,868	52,793	46,515	52,591	36,542	38,982	17,015	38,447

* Less than 500.

Source of data: United States Department of Agriculture, Agricultural Statistics, 1940.

AVOCADOS

The United States is both a producer and importer of avocados. Domestic production is limited to California and Florida. Imports originate chiefly in Cuba, with a small amount coming from the British West Indies. Since imports are from the regions which do not export to Europe and which are not directly affected by the war, its effect on the United States avocado industry will be due to domestic developments.

The commercial avocado industry of the United States is relatively young. As late as 1920, only about 12,000 avocado trees of bearing age were in California. During the following two decades plantings increased. At present no commercial plantings are over twenty-five years old. The following table presents data on California avocado acreage planted.

California Avocado Acreage Planted During Designated Periods

1914 or earlier	1915 to 1919	1920 to 1924	1925 to 1929	1930 to 1934	1935 to 1939	Total acreage standing in 1939
126	185	632	4,260	7,960	1,072	14,235

Source of data: Blair, R. E. and N. C. Phillips. "Acreage Estimates California Fruit and Nut Crops as of 1939," California Cooperative Crop Reporting Service, June 1940.

Of the total acreage standing in 1939, 92 per cent or 13,160 acres were classified as bearing; the remaining 8 per cent or 1,075 acres were nonbearing. In San Diego, Los Angeles, and Orange counties were located 95 per cent of the California avocado acreage. The remaining 5 per cent was scattered through other southern counties: Ventura, Santa Barbara, San Bernardino, and Riverside. The peak of new plantings, under present circumstances, appears to have been passed. Future increase in volume of production will depend upon the coming into bearing of current nonbearing acreage and present bearing acreage reaching full production.

California avocado production has expanded greatly since 1924. Although the trend has been sharply rising, production has fluctuated widely from year to year. The wide fluctuations are due partly to climatic conditions and partly to an alternate-bearing tendency characteristic of avocado trees. Table 22 presents pertinent data on production imports and prices. Annual data are given in order to reveal the large variation in the supply position from one year to the next.

Whereas California production has increased at a more rapid rate than that of Florida, annual production in Florida has fluctuated relatively less than in California. During the past five years California has produced from 72 per cent to 91 per cent of total domestic production; the remainder was produced in Florida. Without additional plantings, Florida production will probably continue to follow an upward trend since the bearing acreage has not yet reached a full bearing stage.

Prior to 1933, the volume of avocado imports exceeded domestic production, and from 1924 to 1933 imports varied from 94 per cent to 60 per cent of total supplies. From 1934, California production, except in 1937, was in excess of imports, and total domestic production became relatively more important. During 1939 only 300 tons of avocados were imported, due to a crop failure in Cuba. In the next several years, however, imports may be expected again to be an important segment of total supplies utilized.

Approximately 95 per cent of United States avocado imports originate in Cuba. Both Florida and Cuba, the two avocado producing areas which compete with California, are nearer to the large consuming areas on the Atlantic seaboard and in the Middle West. Of considerable importance to the domestic avocado industry is the fact that approximately 99 per cent of Cuban avocado exports go to this country. Consequently, Cuban producers will not be adversely affected by loss of European markets due to the war, and Cuban export pressure on this country will not be greater than in the past. This situation in conjunction with the fact that the United States does not export avocados leads to the conclusion that the supplies available for consumption in this country will not be affected by the European war.

Current estimates place California avocado production for the 1940-41 crop year at about 13,150 tons. Such a volume of production is unusually large and is the second largest on record. The large 1940-41 crop partly accounts for the fact that current prices are relatively low. However, avocado prices and returns to growers may be expected to increase as money income payments to consumers expand.

TABLE 22

United States Supplies and Prices of Avocados, from 1924-25

Crop year July-June	Production		Imports	Total supply	California production as per cent of		Farm price	
	California	Florida			United States production	United States supply	California	Florida
	tons	tons	tons	tons	per cent	per cent	cents per pound	cents per pound
1924-25	130	--	2,031	2,161	100.0	6.0	36.0	--
1925-26	230	--	2,059	2,739	100.0	8.4	27.0	--
1926-27	620	--	2,688	3,308	100.0	18.7	20.0	--
1927-28	320	--	1,165	1,485	100.0	21.5	34.0	--
1928-29	1,120	--	2,375	3,495	100.0	32.0	16.5	--
1929-30	400	420	3,372	4,192	48.8	9.5	32.9	7.1
1930-31	2,110	620	4,773	7,503	77.3	28.1	13.0	9.6
1931-32	2,520	820	5,097	8,437	75.4	29.9	8.3	7.2
1932-33	1,650	1,400	4,340	7,390	54.1	22.3	8.6	4.4
1933-34	2,450	2,200	2,631	7,281	52.7	33.6	8.4	4.9
1934-35	9,300	2,000	2,811	14,111	82.3	65.9	4.4	3.8
1935-36	5,200	1,000	3,765	9,965	83.9	52.2	8.6	4.8
1936-37	6,110	600	4,559	11,259	91.2	54.3	6.5	6.0
1937-38	5,300	2,100	5,628	13,028	71.6	40.7	7.6	4.8
1938-39	14,100	2,220	5,158	21,478	86.4	65.6	4.7	3.2
1939-40*	7,900	2,500	300	10,700	76.0	73.8		

* Preliminary.

Sources of data:

United States Department of Agriculture, Agricultural Statistics, annual issues, and general crop reports, December issues.

United States Department of Commerce, Monthly Summary of Foreign Commerce of the United States, monthly issues.

TABLE 23

United States Imports of Avocados, by Countries of Origin from 1938-39
(Pounds)

Year July-June	1938-39	1939-40	1940-41*
Total	10,315,419	600,397	11,250,002
Cuba	9,633,551	581,987	11,249,952
Other West Indies	681,868	18,405	50

* Includes imports only for July-September 1940.

Source of data: United States Bureau of Foreign and Domestic Commerce. Imports of Fruits and Fruit Preparations, Monthly Statement 3052.

TABLE 24

Cuban Exports of Avocados, by Destination, 1934-38
(Pounds)

Calendar year	1934	1935	1936	1937	1938
Total	4,454,723	6,951,841	9,204,565	11,064,858	9,861,660
United States	4,453,966	6,931,947	9,180,011	11,038,073	9,830,341
Others	757	19,844	24,554	26,785	31,319

Source of data: Republica de Cuba. Secretaria de Hacienda, Direccion General de Estadistica, Comercio Exterior. Annual issues, 1935, 1936, 1938.

DATES

During the past twenty-five years the United States date producing industry has expanded rapidly. Approximately 95 per cent of domestic production originates in California, with the remaining in Arizona. Despite the rapid increase in domestic production of dates, approximately 88 per cent of total utilization is derived from imports. Hence, the current European war is of considerable importance to the United States date industry. Since date imports originate in neutral countries, the flow of imports into the United States depends primarily upon the availability and costs of shipping space.

In 1927 California had 624 acres bearing dates. Bearing acreage consistently increased from year to year, so that by 1939 there were 2,896 bearing and 469 nonbearing acres in the state. About 89 per cent of the 1939 total acreage is in Riverside County and 99 per cent in Riverside and Imperial counties. During the same period date acreage expended in Arizona, but at a much slower rate. As United States acreage of dates increased, production also grew. Table 25 shows, by five-year averages, significant changes in the composition of United States date supplies. Although domestic production for the crop year 1940-41 is estimated to be approximately 10 million pounds, an all-time record, it is equivalent to about only 16 per cent of the average annual supplies available for consumption during the 1935-38 period. These figures indicate the extent to which the domestic market is dependent upon date imports to meet consumption requirements.

The large bulk of United States imports of dates originates in countries surrounding the Persian Gulf. Iraq (formerly Mesopotamia) is the chief exporter. Some imports are from European countries which import, pack, and reexport dates from Iraq, Iran and other countries in Asia Minor. The following table includes data which indicate the distribution of United States date imports.

TABLE 25

United States Imports of Dates by Countries of Origin

Calendar years	Total	Iraq	United Kingdom	Arabia	Belgium	France	Others
	Thousands of pounds						
Averages:							
1925-1929	55,874	46,910	5,686	450	537	510	1,781
1930-1934	45,438	34,079	9,070	818	671	72	728
1935-1938	53,743	46,779	3,500	2,320	203	1	940
	Per cent of total						
1925-1929	100.0	83.9	10.2	0.8	1.0	0.9	3.2
1930-1934	100.0	75.0	20.0	1.8	1.5	0.1	1.6
1935-1938	100.0	87.0	6.5	4.3	0.4	0.0	1.8

Sources of data: United States Department of Foreign Commerce, Foreign Commerce and Navigation of the United States, Imports of Fruits and Fruit Preparations No. 3052.

[illegible]

[illegible]

[illegible]

The 1940-41 date crop in Iraq is estimated to be at normal and total shipments to the United States are estimated to be approximately 800,000 cases. Latest available monthly data indicate that current date imports from Iraq are about equal to those during the corresponding period last year. It is of importance to note that there is no evidence that the European war has resulted in decreased date imports. Since the United Kingdom and continental Europe probably are not importing dates which are "non-essential," it is probable that the producing and exporting countries will try to export additional quantities to this country. Trade comments, in fact, indicate that large quantities of dates are in transit to the United States.

Iraquian shipments of dates to this country normally go over a major trade route which originates in the Persian Gulf, goes through the Red Sea, the Mediterranean Sea, and across the Atlantic Ocean. Current naval operations in the Mediterranean, however, necessitate shipments being made around Africa and then across the Atlantic. Some dates originating in ports of the Persian Gulf are routed over the Indian and Pacific Oceans. Date shipments to the United States have not been seriously affected by the European war and, unless ocean tonnage becomes more scarce than at present, there is little basis for expecting decreased imports of dates into the United States.

The large domestic crop for 1940-41, however, in conjunction with imports the same as last year will probably bring favorable returns to growers. But such a situation will be due more to increased domestic purchasing power rather than decreased supplies available. If, for some reason which is not now evident, imports were drastically reduced in volume because of impossibility to make shipments to this country, domestic producers would temporarily receive high prices. Otherwise the impact of the war on the United States date industry will be limited to the indirect effects of increased domestic money income payments associated with the defense program.

TABLE 26

United States Production, Net Imports, and Supplies of Dates Annually from 1925, and Five-Year Averages, 1915-19 to 1935-38

Year beginning July 1	Production*	Net imports †	Available for consumption	Production as per cent of supply
	1	2	3	4
	1,000 pounds	1,000 pounds	1,000 pounds	per cent
Averages:				
1915-1919	77	22,733	22,810	0.3
1920-1924	250	45,472	45,722	0.5
1925-1929	1,336	50,927	52,263	2.6
1930-1934	4,361	46,983	51,344	8.5
1935-1938	7,470	52,696	60,166	12.4
Annual:				
1925	669	66,192	66,861	1.0
1926	1,075	45,500	46,575	2.3
1927	1,459	40,725	42,184	3.5
1928	1,687	51,451	53,138	3.2
1929	1,790	50,767	52,557	3.4
1930	3,170	41,256	44,426	7.1
1931	2,550	43,452	46,002	5.5
1932	4,490	46,437	50,927	8.8
1933	5,100	49,988	55,088	9.3
1934	6,495	53,781	60,276	10.8
1935	6,700	54,057	60,757	11.0
1936	8,190 ‡	58,137	66,327	12.3
1937	7,710 ‡	51,643	59,353	13.0
1938	7,279 ‡	46,948	54,227	13.4
1939	5,342 ‡	45,093	50,435	10.6

* Delivered fresh fruit weight at packing house -- California imports presumably dry weight.

† Net imports prior to 1933 are total imports minus re-exports, but data for 1933 and thereafter are imports for consumption only.

‡ Preliminary.

Sources of data: Compiled by S. W. Shear, Giannini Foundation of Agricultural Economics, University of California.

Col. 1: 1915-1918 data are production reported by the Agricultural Commissioner for Riverside County plus Arizona production estimates of the Arizona Agricultural Experiment Station.

1919-1939: California production as reported by the California Cooperative Crop Reporting Service plus Arizona production estimates of the Arizona Agricultural Experiment Station.

Col. 2: From official reports of the U. S. Department of Commerce.

Col. 3: Col. 1 plus col. 2.

Col. 4: Col. 1 as per cent of col. 3.

Table [illegible]

[illegible] Imports, and [illegible] of Bales [illegible] 1947, and [illegible] Average, 1941-45 to 1945-49

[illegible]	[illegible]	[illegible]	[illegible]	[illegible] per cent [illegible]
	[illegible]	[illegible]	[illegible]	
	[illegible]	[illegible]	[illegible]	Per cent
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

WALNUTS

United States acreage and commercial production of walnuts are located on the Pacific Coast with about 91 per cent of the 1940 estimated total production occurring in California and the remainder in Oregon and Washington. Since the production of Northwest walnuts is increasing at a faster rate than that of California, this state is supplying a smaller proportion of the domestically produced walnuts. In absolute terms, however, California with annual average production of 40,172 tons of merchantable unshelled walnuts for the five-year period of 1935-39 far exceeds a corresponding figure of 2,588 tons for Washington and Oregon. Not only is production in the Northwest increasing at a faster rate than in California, but within California acreage and production in the northern part of the state are increasing relative to the southern part of the state. Since the crop year 1935-36, total United States production has annually averaged 42,760 tons of merchantable unshelled walnuts. It is likely that due to acreage coming into bearing during the next five years, total production of merchantable unshelled walnuts close to 50,000 tons will be usual rather than exceptional.

California walnut acreage reached a peak of 140,689 acres in 1935 and by 1939 had declined to 130,700 acres. Nonbearing acreage was at its high point in 1928 with 47,361 acres which were about 35 per cent of the total acreage. Nonbearing acreage has decreased consistently so that by 1938 it was only 13,056 acres or almost 10 per cent of total acreage. Bearing acreage reached its maximum of 122,514 acres in 1935, decreased sharply the following year, and then increased so that by 1939 it was at 122,300 acres, a point almost equal to the 1935 high. Bearing acreage at a high level and nonbearing at about 10 per cent of total acreage imply that with average climatic conditions the volume of production will further increase unless substantial plots of trees are pulled.

Since 1933 the United States has been an exporter as well as a producer and importer of walnuts. Beginning with the 1924-25 season, when 15,244 tons were imported, the volume of imported unshelled walnuts has markedly decreased to the point where it is of no consequence. During the five-year period 1930-34, annual averages of 1,135 tons and 4,380 tons of shelled and unshelled walnuts, respectively, were imported, whereas during 1935-39 the corresponding averages were 82 tons and 2,381 tons. The marked decrease in imports resulted from the increase in domestic production which placed this country on an export basis and the effectiveness of the import duties of 15 cents per pound on shelled and 5 cents per pound on unshelled walnuts. Imports of unshelled walnuts came largely from Italy, France, Rumania, Chile and Syria. Shelled walnut imports originated chiefly in China, Turkey, Rumania, France, Japan, Chile, and British India, with almost three fourths coming from China. For the duration of the war it appears that China and Chile will be in a position to continue shelled walnut exports to this country in amounts equal to those of the preceding two or three years.

The domestic industry has disposed of the bulk of the crop in the form of unshelled walnuts. During the past eight or nine years culls and part of the designated "surplus" have been shelled. Domestic shelled walnuts have a large proportion of large kernels and are amber to brown in color, whereas imported shelled walnuts are mostly medium in size and of a light color. These characteristics of imported walnuts make them preferable for use in the confectionery and bakery trades which use the bulk of shelled walnuts. Present indications point to the conclusion that the volume of imported walnuts will not be materially

[illegible]

United States commercial production of walnuts [illegible] on the Pacific Coast with about 91 per cent of the 1944 estimated total production occurring in California and the remainder in Oregon and Washington. Since the production of Northwestern walnuts is increasing at a faster rate than that of California, this state is supplying a smaller proportion of the commercially produced walnuts. In absolute terms, however, California with annual average production of 61,172 tons of merchantable unshelled walnuts for the five-year period of 1939-43 far exceeds a corresponding figure of 2,840 tons for Washington and Oregon. Not only is production in the Northwest increasing at a faster rate than in California, but within California acreage and production in the northern part of the state are increasing relative to the southern part of the state. Since the crop year 1939-40, total United States production has annually averaged [illegible]2,296 tons of merchantable unshelled walnuts. It is likely that due to acreage coming into bearing during the next few years, total production of merchantable unshelled walnuts close to 80,000 tons will be [illegible].

California walnut acreage reached a peak of 151,940 acres in 1934 and by 1939 had declined to 144,700 acres. Nonbearing acreage was at its high point in 1930 with 37,832 acres which were about 25 per cent of the total acreage. Nonbearing acreage has since declined consistently so that by 1938 it was only 14,540 acres or about 10 per cent of total acreage. Bearing acreage reached its peak of 137,311 acres in 1934, decreased slightly the following year, and then increased so that by 1939 it was at 137,300 acres, a point almost equal to the 1934 high. Bearing acreage at a high level and nonbearing at about 10 per cent of total acreage imply that with average climatic conditions the volume of production will further increase unless substantial blocks of trees are pulled.

Since 1930 the United States has been an exporter as well as a producer [illegible]. Apparently, the volume of imported unshelled walnuts has not materially decreased [illegible] the Tariff Act of 1930 [illegible]. During the five-year period 1934-38, annual average imports of 1,384 tons and 4,440 tons of shelled and unshelled walnuts, respectively, [illegible] during 1925-29 the corresponding tonnages were 11,686 tons and 8,341 tons. The marked decrease in imports resulted from the [illegible] in domestic production which places this country on an export basis and the [illegible] of the import duties of 15 cents per pound on shelled and 5 cents per pound on unshelled walnuts. Imports of unshelled walnuts come largely from Italy, France, Rumania, Chile and Syria. Shelled walnut imports originated [illegible] with the bulk of imports coming from China. For the duration of the war it appears that [illegible] and Chile will be in a position to continue shelled walnut exports to this country in amounts equal to those of the preceding two or three years.

The domestic industry has disposed of the bulk of the crop in the form of unshelled walnuts. During the past eight or nine years culls and part of the designated "surplus" have been shelled. Domestic shelled walnuts have a large proportion of large kernels and are amber to brown in color, whereas imported shelled walnuts are mostly medium in size and of a light color. These characteristics of imported walnuts make them preferable for use in the confectionery and bakery trades which use the bulk of shelled walnuts. Present indications point to the conclusion that the volume of imported walnuts will not be materially

reduced beyond the low level prevailing during the 1939-40 season. Examination of monthly import data indicates that total imports of walnuts, shelled and unshelled, are at about the pre-war level.

Since October 1933, the Pacific Coast walnut industry has been operating under a federal and state marketing agreement. The prime objective of the industry program has been to raise the prices and income derived from the domestic sales of unshelled walnuts. The means of reaching such a goal has been the diversion of a designated part of the marketable crop into export and domestic shelled outlets at prices lower than those prevailing in the protected domestic market. Such a program had official sanction and the federal government made payments for the 1935, 1936, and 1937 crops amounting to about 5 cents a pound on the quantity of walnuts diverted from the domestic unshelled market. Largely as a result of the subsidization policy, the United States became an exporter of walnuts.

The United Kingdom was the dominant outlet for United States walnut exports. From 3,905 tons exported to Europe during the 1938 calendar year, 2,955 tons were shipped to the United Kingdom. In the same year 645 tons were shipped to Canada, and 1,470 tons to other countries in North and South America. Total exports for 1938 amounted to 6,415 tons, which were 1,236 tons more than the 1937 exports and about the same as for 1936. The war has resulted in the loss of the markets in the United Kingdom and Canada since those countries do not permit imports of walnuts which are classed as a "non-essential" good. In addition, it is difficult to ship to Belgium, Holland, Finland, and the Scandinavian countries, which in the aggregate are a relatively important export outlet. As a direct result of the war, the walnut industry has lost in terms of volume approximately 70 per cent of its export market.

The loss of the important United Kingdom walnut market raises the question whether compensating gains might be made in the exports to other countries. In this connection, attention may be directed towards Canada and other export markets in North and South America. Table 29 shows Canadian walnut imports from chief countries of origin. During the past five years the bulk of Canadian imports of unshelled walnuts came from this country. The other chief countries of origin were China, Italy, Rumania, and France. Excluding imports from the United States, Canada would have received substantial shipments only from China. Hence there was some opportunity for United States increased exports of unshelled walnuts to Canada to replace those formerly purchased from European exporters. However, such a development was dependent upon the extent to which semi-luxury "non-essentials" such as walnuts would be imported into Canada. In December 1940, Canadian legislation prohibited importation of certain items from nonsterling countries. Nuts of all kinds, shelled and unshelled, were included in the prohibited list. As long as such legislation continues, United States walnut exports to Canada are precluded. There is some opportunity for increased walnut exports to Central and South American countries which formerly received imports from European sources. However, it is very unlikely that an increase in exports to South and Central American countries would be sufficient to offset the large loss of the English and Canadian markets.

Considering domestic production, exports and probable demand -- foreign and domestic -- prospects for walnut prices and income during the 1940-41 crop year appear to be only slightly more favorable than the previous year. Pacific Coast 1940-41 production is estimated to be about 50,700 tons orchard run,

[illegible]

contrasted with 1939-40 production of 59,400 tons, and 50,800 tons for the 1936-38 four-year average. During the 1936-40 period, 30,000 tons of merchantable unshelled walnuts (37,500 tons orchard run) were sold on the domestic market, and imports of unshelled walnuts during the same period were relatively slight. In the same four-year period unshelled walnut sales averaged about two thirds of production and the remaining one third was shelled or exported. Therefore, shelled walnuts amounted to about 20 per cent and exports were about 10 per cent of production. The Walnut Control Board, with the approval of the Surplus Marketing Administration, originally allocated the 1940 merchantable pack as follows: salable proportion at 75 per cent and the "surplus" at 25 per cent. Due to expectations of a short crop, the allocation was recently changed to 85 per cent salable and 15 per cent "surplus." At present the Pacific Coast merchantable pack of unshelled walnuts from the 1940 crop is estimated to be 36,700 tons with a carryover from the 1939 crop estimated at 2,000 tons. Eighty-five per cent of 1940 merchantable pack plus carryover is equal to approximately 33,011 tons, which is 3,011 tons more than the volume of merchantable unshelled walnuts sold annually on the average on the domestic market during the 1936-40 period. Assuming a normal carryover of 2,000 tons into the 1941-42 season leaves only 1,000 tons in excess of average disposition. Therefore, the 1940-41 outlook for the industry depends on whether increase in domestic demand for unshelled and shelled walnuts will be sufficient to offset the loss of major export outlets and absorb the larger proportion of designated salable unshelled walnuts. It is highly improbable that supply-demand conditions will alter sufficiently to suggest that a downward adjustment in acreage is unnecessary in order to attain a production level which will yield favorable returns to the industry.

TABLE 27

United States Exports of Walnuts, by Countries of Destination
Calendar Years 1935-1938
(Pounds)

Country of destination	1935	1936	1937	1938
United Kingdom	4,108,863	5,366,296	3,134,526	5,910,242
Other Europe	4,435,630	3,109,882	2,186,550	1,900,380
Total Europe	8,544,493	8,476,178	5,321,076	7,810,622
Canada	1,130,746	1,145,728	1,587,692	1,289,763
Other North and South America	1,846,623	2,757,892	2,969,665	2,940,041
Asia	23,524	17,899	26,425	35,499
Australia	208,039	233,062	259,222	255,343
Others	8,594	38,993	194,453	497,971
Grand total	11,762,019	12,669,752	10,358,533	12,829,239

Total exports for 1939 amounted to 8,146,476 pounds. The distribution of exports by countries is not available.

Source of data:

1935-1938: U. S. Bureau of Foreign and Domestic Commerce, Foreign Commerce and Navigation of the United States, 1935-1938.

TABLE 28

United States Imports of Walnuts, by Countries of Origin
Annually from 1931-32
(1,000 pounds)

	Crop years July-June							
	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39
Walnuts, shelled:								
France	5,094	2,729	1,595	1,023	809	605	783	354
Other Europe	1,245	847	386	201	208	325	545	280
Total Europe	6,399	3,576	1,981	1,224	1,017	930	1,328	634
China	4,129	1,768	2,969	3,336	2,329	3,428	2,991	2,931
Turkey	92	321	478	885	716	248	122	113
Other countries	171	113	119	187	98	343	194	162
Total	10,731	5,778	5,547	5,632	4,160	4,949	4,635	3,840
Walnuts, not shelled:								
Italy	4,099	1,802	71	27	315	62	177	66
France	1,201	80	39	0	0	1	63	1
Other Europe	68	2	6	--*	--*	--*	13	54
Total Europe	5,368	1,884	116	27	315	63	253	121
China	81	42	--*	0	0	0	0	0
Other countries	53	409	205	3	0	10	1	15
Total	5,502	2,335	321	30	315	73	254	136

* Less than 500.

Source of data:
United States Department of Agriculture, Agricultural Statistics, 1940.

TABLE 28

United States Imports of Walnuts, by Countries of Origin
Annually from 1921-22
(1,000 pounds)

	Crop years, July-June							
	1921-22	1922-23	1923-24	1924-25	1925-26	1926-27	1927-28	1928-29
Walnuts, shelled:								
France	6,094	2,729	1,595	1,023	809	606	783	384
Other Europe	1,245	847	386	201	208	326	645	280
Total Europe	8,299	3,576	1,981	1,224	1,017	930	1,428	664
China	4,129	1,658	2,069	3,336	2,329	3,428	2,901	2,031
Turkey	92	321	478	886	716	248	122	113
Other countries	171	113	119	187	98	343	194	162
Total	10,721	5,778	5,647	5,632	4,160	4,949	4,836	3,960
Walnuts, not shelled:								
Italy	4,089	1,802	71	27	316	68	177	66
France	1,801	80	39	0	0	1	63	1
Other Europe	68	2	6	--	--	--	12	8
Total Europe	5,958	1,884	116	27	316	69	252	121
China	81	42	--	0	0	0	0	0
Other countries	63	409	205	3	0	10	1	16
Total	6,102	2,335	321	30	316	73	254	138

* Less than 500.

Source of data:
United States Department of Agriculture, Agricultural Statistics, 1940.

TABLE 29

Walnuts: Imports into Canada for Consumption, by Countries of Origin
Years Ended March 31, 1935 to 1939
(Pounds)

Country of origin	Not shelled					Shelled				
	1934-35	1935-36	1936-37	1937-38	1938-39	1934-35	1935-36	1936-37	1937-38	1938-39
United Kingdom	30,655	30,107	60,420	8,330	3,900	64	1,599	23,717	15,607	2,917
China	378,262	389,425	263,800	274,500	15,000	3,358,405	4,041,180	4,759,710	3,499,908	4,349,696
France	84,642	36,412	45,746	9,943	--	1,317,350	1,044,642	476,003	1,217,541	461,335
Italy	216,168	24,620	--	218,207	86,510	--	--	1,870	16,800	11,368
Rumania	--	--	73,303	131,222	66,520	--	--	138,941	92,767	113,043
Spain	2,700	--	--	--	--	2,660	16,800	22,960	2,800	--
United States	545,499	1,034,660	1,146,543	1,092,374	1,264,395	167,449	230,330	159,270	99,178	209,357
Others	16,650	12,208	11,988	26,105	65,314	3,778	16,105	12,225	97,381	673,182
Total	1,274,576	1,527,432	1,601,800	1,760,681	1,501,639	4,849,706	5,350,656	5,594,696	5,041,982	5,820,898
United States as per cent of total	42.8	67.7	71.6	62.0	84.2	3.4	4.3	2.8	2.0	3.6

Source of data:
Canada, Department of Trade and Commerce, Dominion Bureau of Statistics, Trade of Canada, Fiscal Year Ended March 31, 1939.

TABLE 29

Malmute: Imports into Canada for Consumption, by Countries of Origin
Years Ended March 31, 1935 to 1939
(Pounds)

Country of origin	Not shelled					Shelled				
	1934-35	1935-36	1936-37	1937-38	1938-39	1934-35	1935-36	1936-37	1937-38	1938-39
United Kingdom	30,655	30,157	60,420	8,350	3,900	64	1,695	23,717	16,807	2,317
China	378,262	389,425	283,800	274,800	15,000	3,388,405	4,041,180	4,755,716	3,499,908	4,749,498
France	84,642	36,412	45,746	9,943	--	1,317,360	1,044,643	476,003	1,217,541	461,335
Italy	216,188	24,620	--	218,207	86,310	--	--	1,870	16,800	11,368
Rumania	--	--	73,303	131,222	86,320	--	--	138,941	52,767	115,043
Spain	2,700	--	--	--	--	2,660	16,890	22,580	2,800	--
United States	546,499	1,034,680	1,146,543	1,092,374	1,284,395	167,449	230,380	155,270	99,176	209,357
Others	16,550	12,208	11,988	26,108	65,314	3,778	16,108	12,255	47,341	573,182
Total	1,274,376	1,527,482	1,601,800	1,760,881	1,501,835	4,845,708	5,350,658	5,564,656	5,041,952	5,820,898
United States as per cent of total	42.8	67.7	71.6	62.0	64.2	3.4	4.3	2.8	2.0	3.6

Source of data:
Canada, Department of Trade and Commerce, Dominion Bureau of Statistics, Trade of Canada, Fiscal Year Ended March 31, 1939.